

# Service Manual

## Color Television

**CHASSIS : CN-011**

**Model :**

**DTQ-29S3FC  
DTQ-26S3FC  
DTQ-26S3FCM**

**U.S.A  
Canada**



**DTQ-29S3FC**



**DTQ-26S3FC**



**DTQ-26S3FCM**

### ■ SPECIFICATIONS

ITEMS	MODEL		
TV STANDARD	NTSC-M		
POWER INPUT	AC 120V 60Hz		
POWER CONSUMPTION	97W	95W	90W
TUNING SYSTEM	Frequency Synthesizer(FS)Tuning System		
TUNING RANGES	VHF:2~13(12) UHF:14~69(65) CATV:1~125(125)		
SOUND OUTPUT	1.8W×1.8W	1.8W+1.8W	1.8W
SPEAKER	3W 8ohm		
ANTENNA INPUT IMPEDANCE	75ohm Unbalanced		
AUXILIARY INPUT TERMINAL	Front : Video, Audio Rear:Video, Audio		
INTERMEDIATE FREQUENCIES	Picture IF Carrier Frequency :45.75MHz Sound IF Carrier Frequency :41.25MHz Color Sub-Carrier Frequency :42.17MHz		
REMOTE CONTROL	R-43A01		
SPECIAL FUNCTIONS	3-Language OSD With CAPTION Wake-up On/Off Time Sleep Timer Power Restore		

**DAEWOO ELECTRONICS CO., LTD**

<http://svc.dwe.co.kr>

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## **APPENDIX (Appendix is provided only by internet [http://svc.dwe.co.kr] )**

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# PRODUCT SAFETY SERVICING GUIDELINES FOR COLOR TELEVISION RECEIVERS

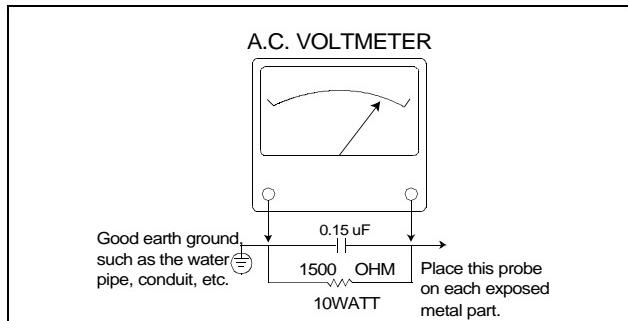
**CAUTION :** Do not attempt to modify this product in any way. Unauthorized modifications will not only void the warranty, but may lead to your being liable for any resulting property damage or user injury. Service work should be performed only after you are thoroughly familiar with all of the following safety checks and servicing guidelines. To do otherwise, increases the risk of potential hazards and injury to the user.

## SAFETY CHECKS

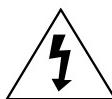
After the original service problem has been corrected, a check should be made of the following:

### SUBJECT : FIRE & SHOCK HAZARD

1. Be sure that all components are positioned in such a way as to avoid possibility of adjacent component shorts. This is especially important on those chassis which are transported to and from the repair shop.
2. Never release a repair unless all protective devices such as insulators, barriers, covers, shields, strain reliefs, and other hardware have been reinstalled per original design.
3. Soldering must be inspected to discover possible cold solder joints, frayed leads, damaged insulation (including A.C. cord), solder splashes or sharp solder points. Be certain to remove all loose foreign particals.
4. Check for physical evidence of damage or deterioration to parts and components, and replace if necessary follow original layout, lead length and dress.
5. No leads or components should touch a receiving tube or a resistor rated at 1 watt or more. Lead tension around protruding metal surfaces must be avoided.
6. All critical components such as fuses, flameproof resistors, capacitors, etc. must be replaced with exact factory types. Do not use replacement components other than those specified or make unrecommended circuit modifications.
7. After re-assembly of the set always perform an A.C. leakage test on all exposed metallic parts of the cabinet, (the channel selector knob, antenna terminals, handle and screws) to be sure the set is safe to operate without danger of electrical shock. Do not use a line isolation transformer during this test. Use an A.C. voltmeter, having 5000 ohms per volt or more sensitivity, in the following manner : connect a 1500 ohm 10 watt resistor, paralleled by a 15 mfd. 150V A.C. type capacitor between a known good earth ground (water pipe, conduit, etc.) and the exposed metallic parts, one at a time. Measure the A.C. voltage across the combination of 1500 ohm resistor and 0.15 MFD capacitor. Reverse the A.C. plug and repeat A.C. voltage measurements for each exposed metallic part. Voltage measured must not exceed 0.75 volts R.M.S. This corresponds to 0.5 milliamp A.C. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.



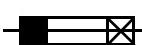
## GRAPHIC SYMBOLS :



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the service personnel to the presence of uninsulated "dangerous voltage" that may be of sufficient magnitude to constitute a risk of electric shock.



The exclamation point within an equilateral triangle is intended to alert the service personnel to the presence of important safety information in service literature.



Fuse symbol is printed on pcb adjacent to the fuse, with 'RISK OF FIRE REPLACE FUSE AS MARKED'. The symbol is explained in the service manual with the following wording or equivalent.

**"CAUTION : FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE (5A, 125V)" and "ATTENTION: AFIN D'ASSU UNE PROTECTION PERMANENTE CONTRE LES RISQUES D'INCENDIE, REMPLACER UNIQUEMENT PAR UN FUSIBLE DE MEME TYPE ET DE '5A, 125V'.**

### SUBJECT : X-RADIATION

1. Be sure procedures and instructions to all service personnel cover the subject of X-rays in current T.V. receivers is the picture tube. However, this tube does not emit X-rays when the high voltage is at the factory specified level. The proper value is given in the applicable schematic. Operation at higher voltages may cause a failure of the picture tube or high voltage supply and, under certain circumstances, may produce radiation in excess of desirable levels.
2. Only factory specified C.R.T. anode connectors must be used. Degaussing shields also serve as X-ray shield in color sets. Always re-install them.
3. It is essential that the serviceman has available an accurate and reliable high voltage meter. The calibration of the meter should be checked periodically against a reference standard. Such as the one available at your distributor.
4. When the high voltage circuitry is operating properly there is no possibility of an X-radiation problem. Every time a color chassis is serviced, the brightness should be run up and down while monitoring the high voltage with a meter to be certain that the high voltage does not exceed the specified value and that it is regulating correctly. We suggest that you and your service organization review test procedures so that voltage regulation is always checked as a standard servicing procedure. And that the high voltage reading be recorded on each customer's invoice.
5. When troubleshooting and making test measurements in a receiver with a problem of excessive high voltage, avoid being unnecessarily close to the picture tube and the high voltage compartment. Do not operate the chassis longer than is necessary to locate the cause of excessive voltage.
6. Refer to HV, B+and Shutdown adjustment procedures described in the appropriate schematic and diagrams(where used).

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**SUBJECT : IMPLOSION**

1. All direct viewed picture tubes are equipped with an integral implosion protection system, but care should be taken to avoid damage during installation. Avoid scratching the tube. If scratched, replace it.
2. Use only recommended factory replacement tubes.

**SUBJECT : TIPS ON PROPER INSTALLATION**

1. Never install any receiver in closed-in recess, cubbyhole or closely fitting shelf space over, or close to heat duct, or in the path of heated air flow.
2. Avoid conditions of high humidity such as : Outdoor patio installations where dew is a factor. Near steam radiators where steam leakage is a factor, etc.
3. Avoid placement where draperies may obstruct rear venting. The customer should also avoid the use of decorative scarves or other coverings which might obstruct ventilation.

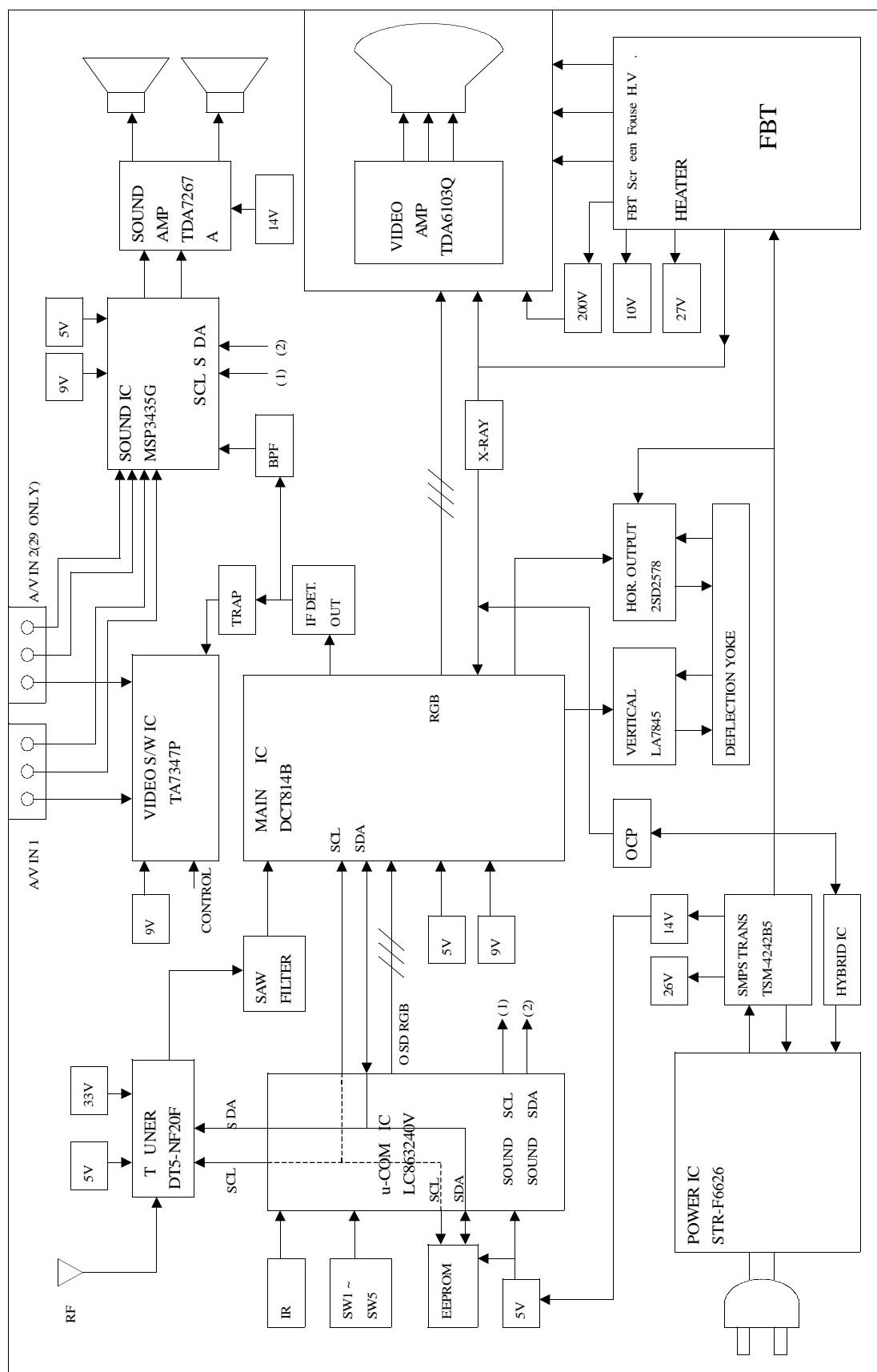
4. Wall and shelf mounted installations using a commercial mounting kit, must follow the factory approved mounting instructions. A receiver mounted to a shelf or platform must retain its original feet(or the equivalent thickness in spacers) to provide adequate air flow across the bottom, bolts or screws used for fasteners must not touch any parts or wiring. Perform leakage test on customized installations.

5. Caution customers against the mounting of a receiver on sloping shelf or a tilted position, unless the receiver is properly secured.
6. A receiver on a roll-about cart should be stable on its mounting to the cart. Caution the customer on the hazards of trying to roll a cart with small casters across thresholds or deep pile carpets.
7. Caution customers against the use of a cart or stand which has not been listed by underwriters laboratories, inc. For use with their specific model of television receiver or generically approved for use with T.V.'s of the same or larger screen size.

# SPECIFICATIONS

ITEMS \ MODEL	DTQ-29S3FC	DTQ-26S3FC	DTQ-26S3FCM	REMARKS
TV STANDARD		NTSC-M		
POWER INPUT		AC 120V 60 Hz		
POWER CONSUMPTION	97W	95W	90W	
TUNING SYSTEM		Frequency Synthesizer ( FS ) Tuning System		
TUNING RANGES		VHF : 2 ~ 13 (12) UHF : 14 ~ 69 (56) CATV : 1 ~ 125 (125)		
SOUND OUTPUT	1.8W × 1.8W	1.8 W+1.8 W	1.8W	
SPEAKER		3 W 8 ohm		
ANTENNA INPUT IMPEDANCE		75 ohm Unbalanced		
AUXILIARY INPUT TERMINAL		Front : Video, Audio Rear : Video, Audio		
INTERMEDIATE FREQUENCIES		Picture IF Carrier Frequency : 45.75 MHz Sound IF Carrier Frequency : 41.25 MHz Color Sub-Carrier Frequency : 42.17 MHz		
REMOTE CONTROL		R-43A01		
SPECIAL FUNCTIONS		3-Language OSD With CAPTION Wake-up On/Off Time Sleep Timer Power Restore		

# CIRCUIT BLOCK DIAGRAM



# ALIGNMENT INSTRUCTIONS

## 1. SERVICE MODE ADJUSTMENTS

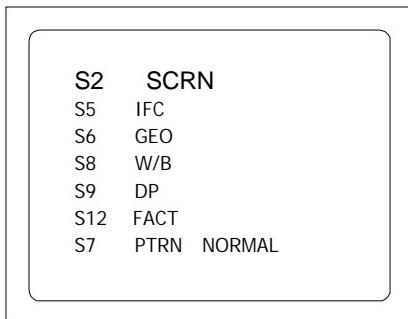
Follow the steps below whenever service adjustment is required. See Table- A and Table- B to determine if service adjustments are required.

### 1) How to enter the service mode using the user remote control.

- Turn the set on.
- Direct the remote control to the reception window of TV.
- Push buttons of remote control in sequence as follows.

**1 ® MUTE ® DISPLAY ® MUTE**

- Then, the screen will appear as follows.



- Using the channel up or channel down button, select the item you wish to adjust.  
(The color of selected item turns into the red.)
- Press the volume up or down button to enter in the service mode you wish to adjust.

### 2) How to memorize the adjusted values in the service mode.

- Must press **DISPLAY** button the state which the screen is displaying each of service menus after all adjustments are completed each of all service menu.

Table-A : Adjust the values of service mode when a part is replaced.

PART REPLACED	ADJUSTMENT		NOTES								
	NECESSARY	UNNECESSARY									
I701 (U-COM)		O	Data is stored in I703.								
I101 (MAIN)		O									
I703 (EEPROM)	O		<p>Initial setting values are written from I701.</p> <p>Adjusting Items</p> <table border="1"><tr><td>S5</td><td>RFAGCD</td></tr><tr><td>S6</td><td>H.PHASE/V.POSI/V.SIZE</td></tr><tr><td>S8</td><td>RD/BD/RB/GB/BB</td></tr><tr><td>S9</td><td>Subbrightness</td></tr></table>	S5	RFAGCD	S6	H.PHASE/V.POSI/V.SIZE	S8	RD/BD/RB/GB/BB	S9	Subbrightness
S5	RFAGCD										
S6	H.PHASE/V.POSI/V.SIZE										
S8	RD/BD/RB/GB/BB										
S9	Subbrightness										
CRT	O		Adjust items related to picture tube only.(White Balance adjustment)								

## ALIGNMENT INSTRUCTIONS

Table-B

MODE	ADJUSTMENT ITEMS	DATA		REMARKS
		INITIAL	RANGE	
S2	Screen Adjustment	-	-	
S5	Auto RF AGC	-	-	
	Video Level (VIDEOL)	7	0 ~ 7	Must be set to 7
	RF AGC Delay (RFAGCD)	*	0 ~ 63	Align RF AGC threshold
	FM Level (FM.LEV)	8	0 ~ 31	Must be set to 20
	AGC Point	3.75	-	Select AGC reference voltage
	A/D VALUE	-	-	
S6	Horizontal Phase(H.PHASE)	*	0 ~ 31	Align sync to flyback pulse, using internal cross pattern(S7)
	Vertical Position (V.POSI)	*	0 ~ 63	Align vertical DC bias, using internal cross pattern(S7)
	Vertical Size (V.SIZE)	*	0 ~ 127	Align vertical amplitude, using internal cross pattern(S7)
	NO SD POWER OFF	YES	-	Automatically turn off in 15min for no received signal.
	Vertical S-Correction (V SC)	0	0 ~ 31	Must be set to 6
	Vertical Linearity (V LIN)	20	0 ~ 31	Must be set to 16
S7	Internal Black	-	-	Display internal BLACK pattern
	Internal 100% White	-	-	Display internal 100% WHITE
	Internal 60% White	-	-	Display internal 60% WHITE
	Internal Cross Pattern	-	-	Display internal CROSS pattern
S8	Red Drive (RD)	*	0 ~ 127	Align RED OUT AC level
	Green Drive (GD)	10	0 ~ 15	Must be set to 10
	Blue Drive (BD)	*	0 ~ 127	Align BLUE OUT AC level
	Red Bias (RB)	*	0 ~ 255	Align RED OUT DC level
	Green Bias (GB)	*	0 ~ 255	Align GREEN OUT DC level
	Blue Bias (BB)	*	0 ~ 255	Align BLUE OUT DC level
S9	Subbrightness	*	0 ~ 127	Align common RGB DC level
	Contrast	10	0 ~ 27	
	Tint	27	0 ~ 27	
	Color	15	0 ~ 27	
S12	Forwarding Mode	-		Factory Initialization

\* indicates the items with different settings each of sets

## 2. ASSEMBLY ADJUSTMENTS

### 1) SCREEN ADJUSTMENT (S2)

- Enter the service mode and select service adjustment S2.
- You can see the one horizontal line on the screen.
- Adjust the Screen Control Volume (located on FBT) so that the horizontal line onscreen may be disappeared.
- Press the volume up or down button to exit in the screen adjustment mode.

#### NOTE

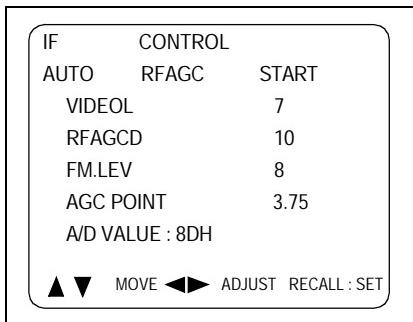
IN THE SCREEN ADJUSTMENT MODE, DONT PRESS OTHER BUTTONS EXCEPT VOLUME UP OR DOWN BUTTON.

**2) FOCUS ADJUSTMENT**

- Turn in a local station and adjust the Focus Control knob (located on FBT) for best picture details at high light condition.

**3) RF AGC DELAY ADJUSTMENT (S5)**

- Receive a good local channel.
- Enter the service mode and select service adjustment S5.
- You can see the OSD as shown in below.



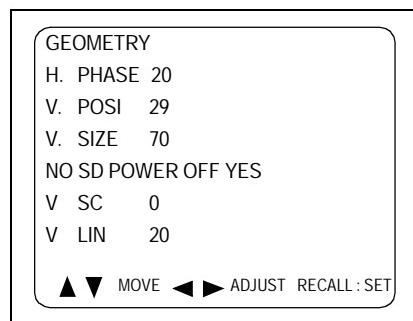
- Select RFAGCD item, press the volume up or down button until noise or beat in picture disappears.
- Press the DISPLAY button to memorize the data.

**4) GEOMETRIC ADJUSTMENTS (S6)**

- Enter the service mode and select service adjustment S7.
- Whenever you select the 'S7' using the volume up or down button, the screen is changing like this.



- Using the volume up or down button, select internal cross pattern.
- Select service adjustment S6
- You can see the OSD as shown in below.

**4-1. Horizontal Position Adjustment**

- Select H.PHASE item, adjust H.PHASE data value to obtain proper horizontal centering of the internal cross pattern at the left and right of the screen.

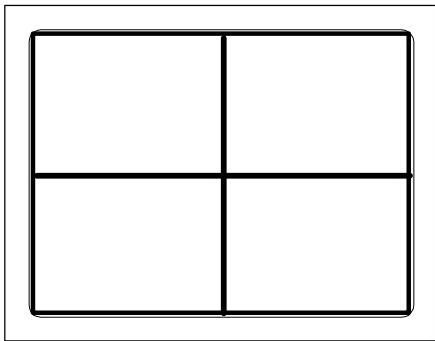
**4-2. Vertical Position Adjustment**

- Select V.POSI item, adjust V.POSI data value to center the raster properly on the screen.

## ALIGNMENT INSTRUCTIONS

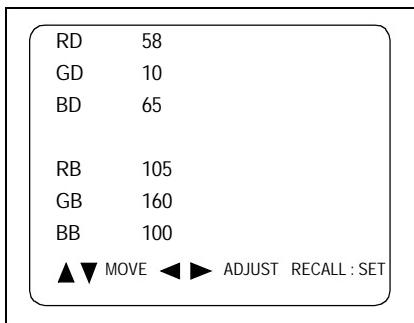
### 4-3. Vertical Size Adjustment

- Select "V.SIZE" item, adjust "V.SIZE" data value to proper vertical size as follows.



### 5) WHITE BALANCE ADJUSTMENT(S8)

- Receive a good local channel.
- Enter the service mode and select service adjustment S8.
- You can see the OSD as shown in below.

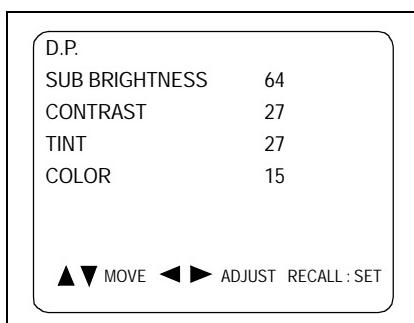


- Using volume up or volume down, adjust service adjustment data of RD/GD/BD and RB/GB/BB until a good gray scale with normal whites is obtained.
- Press the DISPLAY button to memorize the data.

### 6) DIGITAL PRESET(D.P) ADJUSTMENTS(S9)

#### SUBBRIGHTNESS ADJUSTMENT

- Receive a good local channel.
- Enter the service mode and select service adjustment S9.
- You can see the OSD as shown in below.



- Select Subbrightness item, adjust Subbrightness data value to obtain normal brightness level.
- Press the DISPLAY button to memorize the data.

**CONTRAST**

- Fixed value = 27

**TINT**

- Fixed value = 27

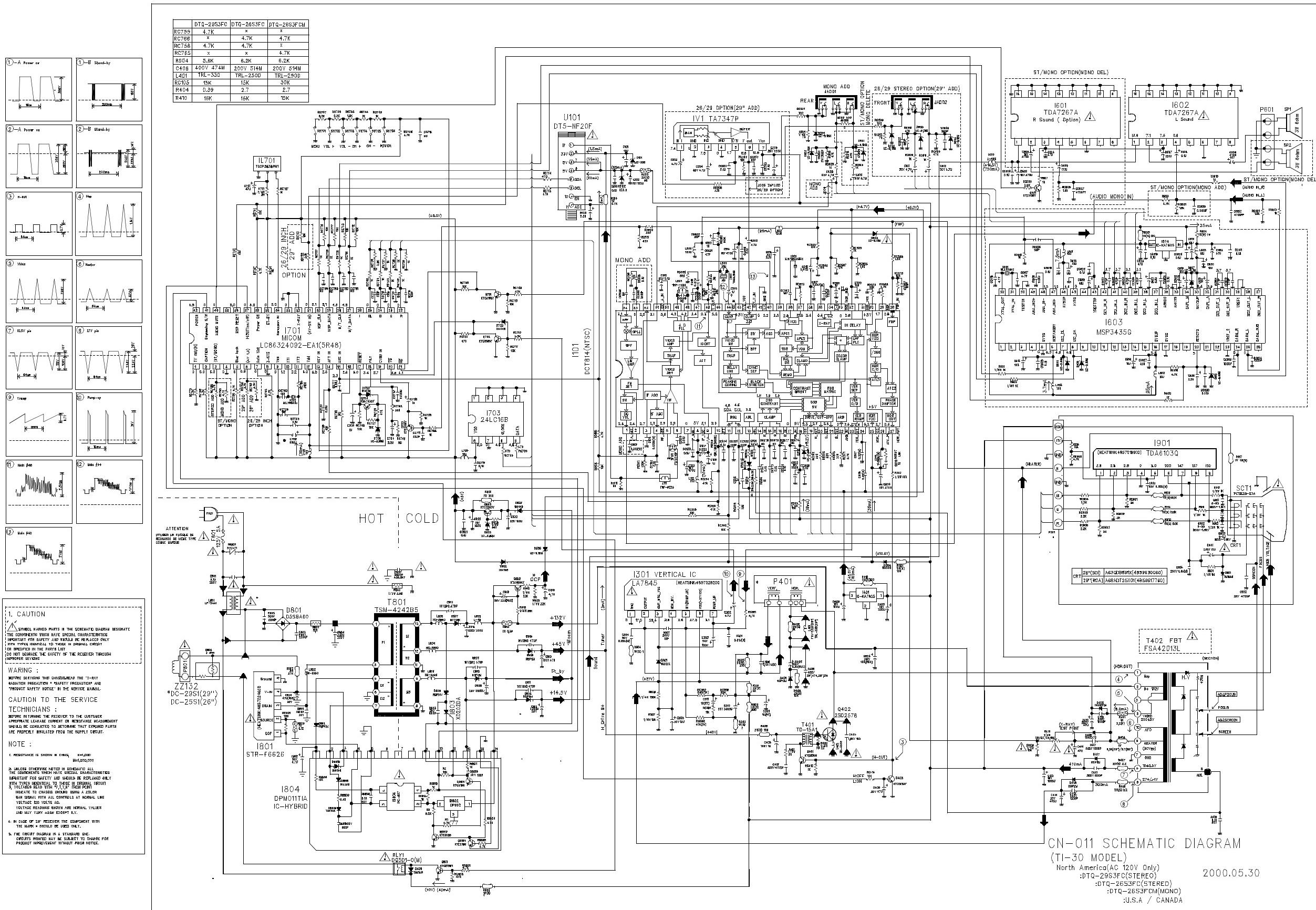
**COLOR**

- Fixed value = 15

**7) FACTORY OUTGOING MODE (S12 : FACT)**

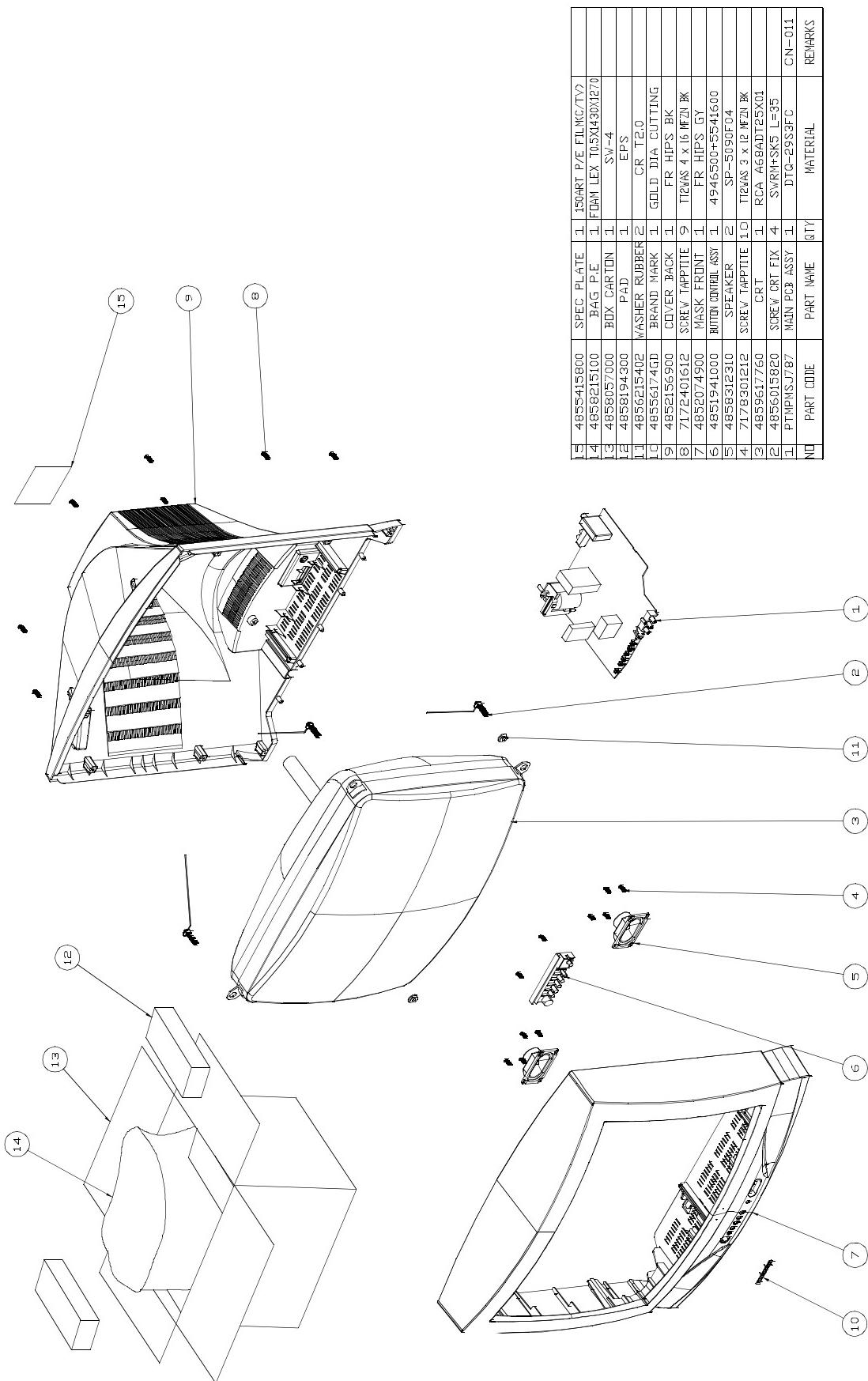
- If you select the S12, then the set becomes factory outgoing status.
- You can see the OSD "outgoing OK"

# SCHEMATIC DIAGRAM



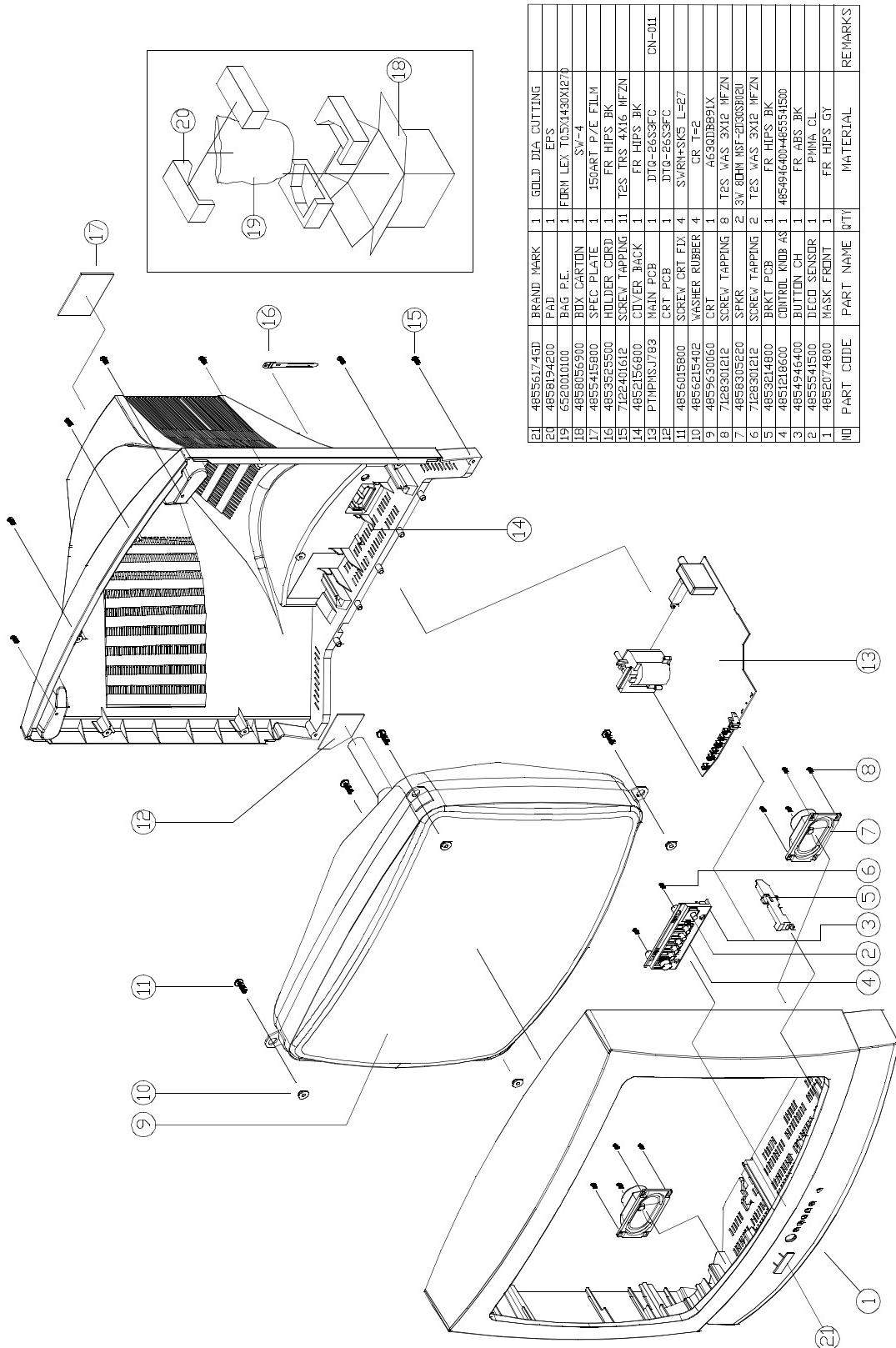
# EXPLODED VIEW

## 1. DTQ-29S3FC

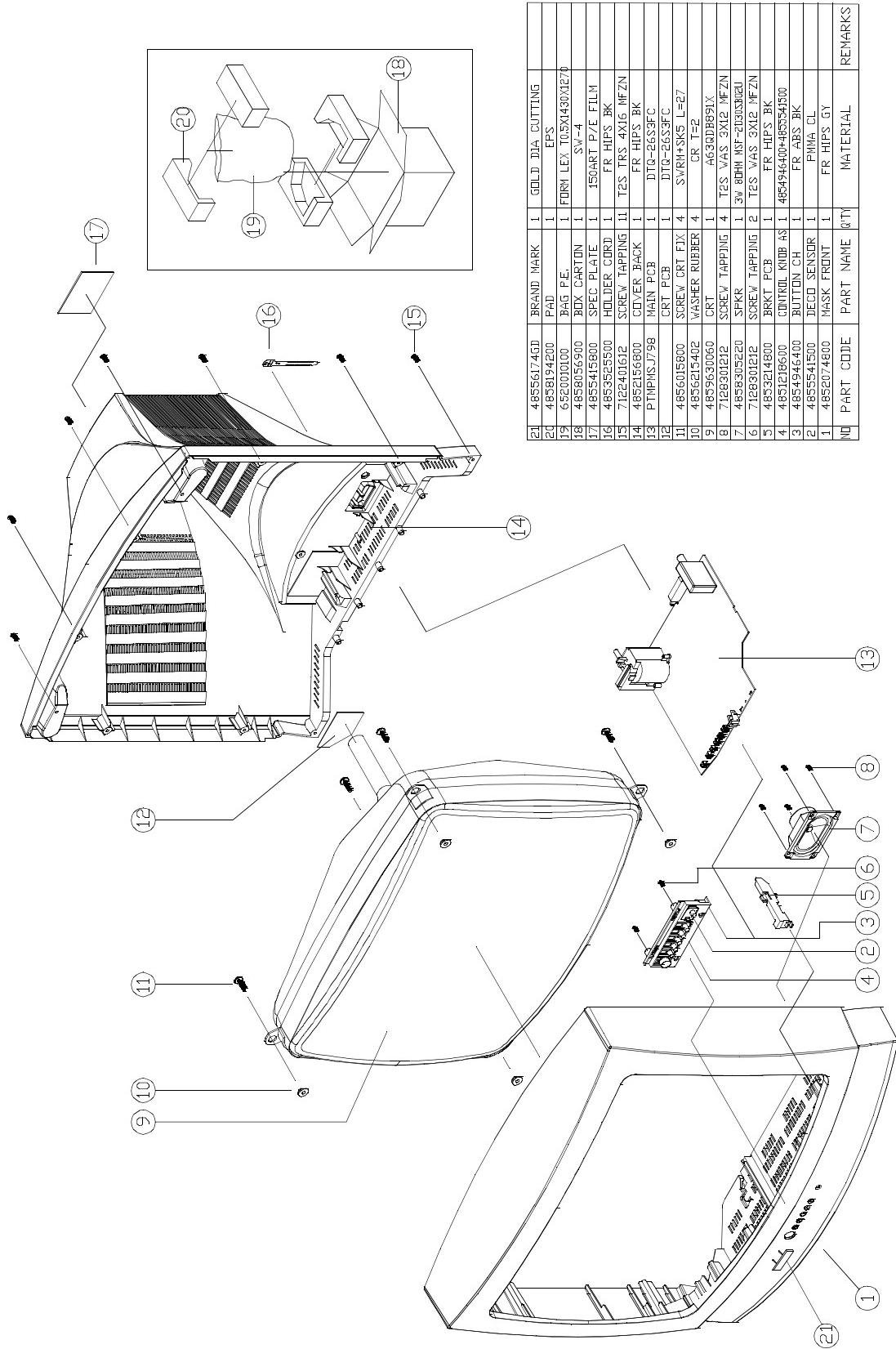


## EXPLODED VIEW

### 2. DTQ-26S3FC



## 3. DTQ-26S3FCM



## **PRINTED CIRCUIT BOARD**

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# SERVICE PARTS LIST

## CAUTION

" " is a safety part, so it must be used the same part.

" " is a recommendable part for stock.

LOC	PART CODE	PART NAME	DESCRIPTION	REMARK	LOC	PART CODE	PART NAME	DESCRIPTION	REMARK
	DTO-29S3FC	DTO-29S3FC			C814	CEYN2D221T	C ELECTRO	200V FWS 220MF (22X30)	
ZZ100	48B4343A01	TRANSMITTER REMOCON	R-43A01 (AA)		C825	CCXB3A471K	C CERA	1KV B 470PF K (T)	
ZZ110	PTACPWJ783	ACCESSORY AS	DTO-26S3FC		C826	CEYF1E332V	C ELECTRO	25V RSS 3300MF (16X31.5)	
10	4850Q00810	BATTERY	R6P/LN		D801	DD5SBA60--	DIODE BRIDGE	D5SBA60	
20	48586054K1	MANUAL INSTRUCTION	DTM-2082CW		D807	DBYT56K---	DIODE	BYT56K	
M821	4858213800	BAG INSTRUCTION	L.D.P.E T0.05X250X400		F801	5F1GB5021L	FUSE GLASS TUBE	CSA/UL 125V 5A	
ZZ120	PTBCSHJ787	COVER BACK AS	DTO-29S3FC		G901	4SG0D00103	SPARK GAP	S-23 900V-1.5KV	
M211	4852156900	COVER BACK	FR HIPS BK		G902	4SG0D00103	SPARK GAP	S-23 900V-1.5KV	
ZZ130	PTPKCPJ787	PACKING AS	DTO-29S3FC		G903	4SG0D00103	SPARK GAP	S-23 900V-1.5KV	
M681	4856812400	BAND	18MM X 3M		I101	1DCT814B--	IC CHROMA	DCT814B	
M801	4858057000	BOX CARTON	SW-4		I301	PTA2SW7921	HEAT SINK ASS	1LA7845N- + 7174300811	
M811	4858194300	PAD	EPS		I301	1LA7845N--	IC	LA7845N	
M821	4858215600	BAG P/E	PE FOAM 10.5x1600x1270		I301A	4857027921	HEAT SINK	AL EX BK	
ZZ131	58G0000143	COIL DEGAUSSING	DC-29S1		I301B	7174300811	SCREW TAPPTITE	TT2 RND 3X8 MFZN	
ZZ132	48519A6210	CRT GROUND AS	GND LINE IEA 29		I401	1K1A7805P1	IC REGULATOR	KIA7805API	
ZZ140	PTCACAJ787	CABINET AS	DTO-29S3FC		I601	1TDA7267A-	IC AMP	TDA7267A	
M191	4851941000	BUTTON CTRL	4854946501+485541600		I602	1TDA7267A-	IC AMP	TDA7267A	
M191A	7178301212	SCREW TAPPTITE	TT2 WAS 3X12 MFZN BK		I603	1MSP3435G-	IC SOUND	MSP-3435G	
M201B	4855800016	LABEL WARNING	ART 300 92X20		I604	1K1A7805P1	IC REGULATOR	KIA7805API	
M201C	4855622700	MARK BRAND	SILVER DIA-CUTTING		I701	1DW8632EA1	IC MICOM	DW863240V-EA1(5R48)	
M211A	7172401612	SCREW TAPPTITE	TT2 TRS 4X16 MFZN BK		I703	1AT24C16PC	IC	AT24C16-10PC	
M211B	4855800013	LABEL MAKER	ART 150 35X10		I801	PTF2SW7701	HEAT SINK ASS	1STRF6626- + 7174300811	
M541	4855415800	SPEC PLATE	150ART P/E FILM (C/TV)		I801	1STRF6626-	IC POWER	STR-F6626	
SP01A	7178301212	SCREW TAPPTITE	TT2 WAS 3X12 MFZN BK		I801A	4857027701	HEAT SINK	AL EX	
SP01B	7178301212	SCREW TAPPTITE	TT2 WAS 3X12 MFZN BK		I801B	7174300811	SCREW TAPPTITE	TT2 RND 3X8 MFZN	
V901	4859617760	CRT	A68ADT25X01		I803	TX0202DA--	THYRISTOR	X0202DA1BA2	
V901A	4856015820	SCREW CRT FIX	SWRM+SK5 L=35		I804	4850M04810	MODULE POWER	DPM011 TI	
V901B	4856215402	WASHER RUBBER	CR T2.0		I901	PTG1SW8902	HEAT SINK ASS	1TDA6103Q- + 7174300811	
ZZ200	PTFMSJJ787	MASK FRONT AS	DTO-29S3FC		I901	1TDA6103Q-	IC VIDEO	TDA6103Q	
M201	4852074900	MASK FRONT	FR HIPS GY		I901A	4857018902	HEAT SINK	A1050P-H24	
M201A	4857817610	CLOTH BLACK	FELT 300X20X0.7		I901B	7174300811	SCREW TAPPTITE	TT2 RND 3X8 MFZN	
ZZ210	PTSPWPJ787	SPEAKER AS	DTO-29S3FC		IL701	1KRT30----	IC PREAMP	KRT30	
P401A	4850704S35	CONNECTOR	YFH800-04+YDT236+ULW=500		IV1	1TA7347P--	IC SWITCH	TA7347P	
P601A	4850704S38	CONNECTOR	YH025-04+35098+ULW=400		JA001	4859109250	JACK PIN BOARD	PH-JB-9614A	
SP1	4858305220	SPEAKER	3W 8 OHM MSF-2D30SB02U		JA002	4859108450	JACK PIN BOARD	YSC03P-4120-14A	
SP2	4858305220	SPEAKER	3W 8 OHM MSF-2D30SB02U		L111	58C5580019	COIL CHOKE	TRF-9225 (0.55UH)	
ZZ290	PTMPMSJ787	PCB MAIN MANUAL AS	DTO-29S3FC		L401	58H0000025	COIL H-LINEARITY	TRL-330	
C310	CEYF1E332V	C ELECTRO	25V RSS 3300MF (16X31.5)		L501	58N0000042	COIL VCO	TRF-V008	
C404	CMYH3C123J	C MYLAR	1.6KV BUP 0.012MF J		L605	58C0000090	COIL CHOKE	L-45S	
C406	CMYE2G474J	C MYLAR	400V PU 0.47MF J		L801	5PLF24A1--	FILTER LINE	LF-24A1	
C801	CL1JB3104M	C LINE ACROSS	AC250V 0.1MF M ECQ-UV WRL		L805	58C4500079	COIL CHOKE	L-45	
C804	CEYD2D331D	C ELECTRO	200V FHS330MF 22X30 25X31		MP01	4856813600	HOLDER WIRE	NYLON 66 DAWH-13NA	
C807	CH1BEE222M	C CERA AC	U/C 2.5KV 2200PF TP		P501	4850708N08	CONNECTOR	BIC-08T-25T+C-20T+ULW=400	
C809	CBYB3D152K	C CERA SEMI	2KV BL(N) 1500PF K		PWC1	4859907810	CORD POWER AS	ME301P+TER=2100	
C812	CEYF1E332V	C ELECTRO	25V RSS 3300MF (16X31.5)		Q401	TKTC3208--	TR	KTC3208	

## SERVICE PARTS LIST

LOC	PART CODE	PART NAME	DESCRIPTION	REMARK	LOC	PART CODE	PART NAME	DESCRIPTION	REMARK
Q402	PTB2SW7609	HEAT SINK ASS'Y	T2SD2578-- + 7174300811		CC612	HCBK472KCA	C CHIP CERA	50V X7R 4700PF K 2012	
Q402	T2SD2578--	TR	2SD2578	R <sub>A</sub>	CC613	HCBK102KCA	C CHIP CERA	50V X7R 1000PF K 2012	
Q402A	4857027609	HEAT SINK	AL EX		CC614	HCBK102KCA	C CHIP CERA	50V X7R 1000PF K 2012	
Q402B	7174300811	SCREW TAPPTITE	TT2 RND 3X8 MFZN		CC615	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
Q802	TKTA968AY-	TR	KTA968AY		CC616	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
R801	RX10B109JN	R CEMENT	10W 1 OHM J BENCH 4P		CC617	HCQK479CCA	C CHIP CERA	50V CH 4.7PF C 2012	
R805	RW02Z128KS	R WIRE WOUND	2W 0.12 OHM K SMALL	R	CC618	HCQK479CCA	C CHIP CERA	50V CH 4.7PF C 2012	
R806	DPB3R0M140	POSISTOR	2322 662 96693	R	CC619	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
RLY1	5SC0101338	SW RELAY	DQ5D1-O(M)/GJ-SS-105LM	R <sub>A</sub>	CC620	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
RS801	DSVC471D14	VARISTOR	SVC471D14A	R <sub>A</sub>	CC621	HCBK471KCA	C CHIP CERA	50V X7R 470PF K 2012	
SCT1	4859303830	SOCKET CRT	ISHG94S		CC622	HCBK471KCA	C CHIP CERA	50V X7R 470PF K 2012	
SF101	5PTSF5241P	FILTER SAW	TSF5241P		CC623	HCBK471KCA	C CHIP CERA	50V X7R 470PF K 2012	
T401	50D15A1--	TRANS DRIVE	TD-15A1	R	CC624	HCBK471KCA	C CHIP CERA	50V X7R 470PF K 2012	
T402	50H0000208	FBT	FSA42013L	R <sub>A</sub>	CC625	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
T801	50M4242B5-	TRANS SMPS	TSM-4242B5		CC626	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
U101	4859719130	TUNER VARACTOR	DT5-NF20F	R <sub>A</sub>	CC627	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
X601	5XE18R432E	CRYSTAL QUARTZ	HC-49/U 18.43200MHZ 30PPM		CC628	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
X701	5XYR03276C	CRYSTAL QUARTZ	C-001R 32.768000KHZ 20PPM		CC630	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
Z501	5PXPS45MB-	FILTER CERA	TPS-4.5MB TRAP (TAPPING)		CC631	HCQK470JCA	C CHIP CERA	50V CH 47PF J 2012	
ZZ200	PTMPJ2J787	PCB CHIP MOUNT B AS	DTO-29S3FC		CC632	HCQK200JCA	C CHIP CERA	50V CH 20PF J 2012	
CC151	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012		CC708	HCQK120JCA	C CHIP CERA	50V CH 12PF J 2012	
CC152	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012		CC711	HCQK221JCA	C CHIP CERA	50V CH 220PF J 2012	
CC153	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012		CC713	HCQK101JCA	C CHIP CERA	50V CH 100PF J 2012	
CC154	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012		CC714	HCQK101JCA	C CHIP CERA	50V CH 100PF J 2012	
CC155	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012		CC715	HCQK101JCA	C CHIP CERA	50V CH 100PF J 2012	
CC201	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012		CC717	HCQK101JCA	C CHIP CERA	50V CH 100PF J 2012	
CC202	HCQK820JCA	C CHIP CERA	50V CH 82PF J 2012		CC719	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CC203	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012		CC752	HCQK180JCA	C CHIP CERA	50V CH 18PF J 2012	
CC528	HCBK102KCA	C CHIP CERA	50V X7R 1000PF K 2012		CC754	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CC530	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012		CC755	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CC551	HCQK101JCA	C CHIP CERA	50V CH 100PF J 2012		CC757	HCBK333KCA	C CHIP CERA	50V X7R 0.033MF K 2012	
CC552	HCQK101JCA	C CHIP CERA	50V CH 100PF J 2012		CC777	HCFK103ZCA	C CHIP CERA	50V Y5V 0.01MF Z 2012	
CC560	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012		CC821	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012	
CC562	HCQK180JCA	C CHIP CERA	50V CH 18PF J 2012		JC001	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
CC567	HCQK181JCA	C CHIP CERA	50V CH 180PF J 2012		JC004	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
CC568	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012		JC005	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
CC571	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012		JC007	HRFT000-CA	R CHIP	1/10 0 OHM 2012	
CC573	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012		RC105	HRFT153JCA	R CHIP	1/10 15K OHM J 2012	
CC575	HCQK102JCA	C CHIP CERA	50V CH 1000PF J 2012		RC150	HRFT153JCA	R CHIP	1/10 15K OHM J 2012	
CC601	HCQK471JCA	C CHIP CERA	50V CH 470PF J 2012		RC151	HRFT104JCA	R CHIP	1/10 100K OHM J 2012	
CC602	HCQK471JCA	C CHIP CERA	50V CH 470PF J 2012		RC154	HRFT473JCA	R CHIP	1/10 47K OHM J 2012	
CC603	HCQK561JCA	C CHIP CERA	50V CH 560PF J 2012		RC156	HRFT473JCA	R CHIP	1/10 47K OHM J 2012	
CC604	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012		RC201	HRFT101JCA	R CHIP	1/10 100 OHM J 2012	
CC605	HCQK561JCA	C CHIP CERA	50V CH 560PF J 2012		RC206	HRFT101JCA	R CHIP	1/10 100 OHM J 2012	
CC606	HCQK561JCA	C CHIP CERA	50V CH 560PF J 2012		RC208	HRFT512JCA	R CHIP	1/10 5.1K OHM J 2012	
CC607	HCBK472KCA	C CHIP CERA	50V X7R 4700PF K 2012		RC212	HRFT750JCA	R CHIP	1/10 75 OHM J 2012	
CC608	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012		RC351	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012	
CC610	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012		RC359	HRFT623JCA	R CHIP	1/10 62K OHM J 2012	
CC611	HCFK104ZCA	C CHIP CERA	50V Y5V 0.1MF Z 2012		RC360	HRFT562JCA	R CHIP	1/10 5.6K OHM J 2012	

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LOC	PART CODE	PART NAME	DESCRIPTION	REMARK	LOC	PART CODE	PART NAME	DESCRIPTION	REMARK
RC361	HRFT113JCA	R CHIP	1/10 11K OHM J 2012		RC708	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012	
RC362	HRFT473JCA	R CHIP	1/10 47K OHM J 2012		RC712	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012	
RC412	HRFT102JCA	R CHIP	1/10 1K OHM J 2012		RC713	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	
RC502	HRFT331JCA	R CHIP	1/10 330 OHM J 2012		RC714	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	
RC503	HRFT331JCA	R CHIP	1/10 330 OHM J 2012		RC715	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RC504	HRFT824JCA	R CHIP	1/10 820K OHM J 2012		RC716	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012	
RC505	HRFT331JCA	R CHIP	1/10 330 OHM J 2012		RC717	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RC508	HRFT102JCA	R CHIP	1/10 1K OHM J 2012		RC720	HRFT101JCA	R CHIP	1/10 100 OHM J 2012	
RC509	HRFT102JCA	R CHIP	1/10 1K OHM J 2012		RC721	HRFT471JCA	R CHIP	1/10 470 OHM J 2012	
RC510	HRFT561JCA	R CHIP	1/10 560 OHM J 2012		RC722	HRFT512JCA	R CHIP	1/10 5.1K OHM J 2012	
RC525	HRFT102JCA	R CHIP	1/10 1K OHM J 2012		RC723	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RC526	HRFT132JCA	R CHIP	1/10 1.3K OHM J 2012		RC725	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RC530	HRFT561JCA	R CHIP	1/10 560 OHM J 2012		RC726	HRFT471JCA	R CHIP	1/10 470 OHM J 2012	
RC531	HRFT821JCA	R CHIP	1/10 820 OHM J 2012		RC727	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RC533	HRFT390JCA	R CHIP	1/10 39 OHM J 2012		RC728	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	
RC557	HRFT182JCA	R CHIP	1/10 1.8K OHM J 2012		RC732	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	
RC559	HRFT331JCA	R CHIP	1/10 330 OHM J 2012		RC733	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	
RC560	HRFT103JCA	R CHIP	1/10 10K OHM J 2012		RC734	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	
RC561	HRFT561JCA	R CHIP	1/10 560 OHM J 2012		RC735	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	
RC562	HRFT914JCA	R CHIP	1/10 910KOHM J 2012		RC736	HRFT392JCA	R CHIP	1/10 3.9K OHM J 2012	
RC565	HRFT123JCA	R CHIP	1/10 12K OHM J 2012		RC737	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	
RC566	HRFT123JCA	R CHIP	1/10 12K OHM J 2012		RC738	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	
RC567	HRFT103JCA	R CHIP	1/10 10K OHM J 2012		RC739	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	
RC568	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012		RC741	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RC569	HRFT152JCA	R CHIP	1/10 1.5K OHM J 2012		RC742	HRFT101JCA	R CHIP	1/10 100 OHM J 2012	
RC570	HRFT103JCA	R CHIP	1/10 10K OHM J 2012		RC743	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012	
RC571	HRFT272JCA	R CHIP	1/10 2.7K OHM J 2012		RC744	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	
RC572	HRFT223JCA	R CHIP	1/10 22K OHM J 2012		RC745	HRFT152JCA	R CHIP	1/10 1.5K OHM J 2012	
RC573	HRFT102JCA	R CHIP	1/10 1K OHM J 2012		RC746	HRFT222JCA	R CHIP	1/10 2.2K OHM J 2012	
RC601	HRFT182JCA	R CHIP	1/10 1.8K OHM J 2012		RC747	HRFT392JCA	R CHIP	1/10 3.9K OHM J 2012	
RC602	HRFT182JCA	R CHIP	1/10 1.8K OHM J 2012		RC748	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	
RC603	HRFT102JCA	R CHIP	1/10 1K OHM J 2012		RC749	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RC604	HRFT473JCA	R CHIP	1/10 47K OHM J 2012		RC755	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012	
RC605	HRFT392JCA	R CHIP	1/10 3.9K OHM J 2012		RC756	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012	
RC606	HRFT102JCA	R CHIP	1/10 1K OHM J 2012		RC758	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012	
RC608	HRFT102JCA	R CHIP	1/10 1K OHM J 2012		RC759	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012	
RC610	HRFT102JCA	R CHIP	1/10 1K OHM J 2012		RC767	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012	
RC611	HRFT102JCA	R CHIP	1/10 1K OHM J 2012		RC770	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012	
RC612	HRFT102JCA	R CHIP	1/10 1K OHM J 2012		RC776	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RC613	HRFT473JCA	R CHIP	1/10 47K OHM J 2012		RC777	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RC614	HRFT473JCA	R CHIP	1/10 47K OHM J 2012		RC781	HRFT101JCA	R CHIP	1/10 100 OHM J 2012	
RC615	HRFT102JCA	R CHIP	1/10 1K OHM J 2012		RC782	HRFT331JCA	R CHIP	1/10 330 OHM J 2012	
RC616	HRFT473JCA	R CHIP	1/10 47K OHM J 2012		RC784	HRFT514JCA	R CHIP	1/10 510K OHM J 2012	
RC618	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012		RC785	HRFT102JCA	R CHIP	1/10 1K OHM J 2012	
RC703	HRFT473JCA	R CHIP	1/10 47K OHM J 2012		RC790	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012	
RC704	HRFT471JCA	R CHIP	1/10 470 OHM J 2012		RC799	HRFT103JCA	R CHIP	1/10 10K OHM J 2012	
RC705	HRFT471JCA	R CHIP	1/10 470 OHM J 2012		RC801	HRFT911JCA	R CHIP	1/10 910 OHM J 2012	
RC706	HRFT101JCA	R CHIP	1/10 100 OHM J 2012		RC802	HRFT472JCA	R CHIP	1/10 4.7K OHM J 2012	
RC707	HRFT101JCA	R CHIP	1/10 100 OHM J 2012		RC803	HRFT473JCA	R CHIP	1/10 47K OHM J 2012	

## SERVICE PARTS LIST

LOC	PART CODE	PART NAME	DESCRIPTION	REMARK	LOC	PART CODE	PART NAME	DESCRIPTION	REMARK
RC901	HRFT302JCA	R CHIP	1/10 3K OHM J 2012		C303	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	
RC902	HRFT302JCA	R CHIP	1/10 3K OHM J 2012		C304	CMXB1H224J	C MYLAR	50V EU 0.22MF J (TP)	
RC903	HRFT302JCA	R CHIP	1/10 3K OHM J 2012		C305	CEXF1H101V	C ELECTRO	50V RSS 100MF (8X11.5) TP	
RC904	HRFT222JCA	R CHIP	1/10 2.2K OHM J 2012		C307	CXSL2H100D	C CERA	500V SL 10PF D (TAPPING)	
RC905	HRFT222JCA	R CHIP	1/10 2.2K OHM J 2012		C308	CMXB1H473J	C MYLAR	50V 0.047MF J (TP)	
RC906	HRFT222JCA	R CHIP	1/10 2.2K OHM J 2012		C309	CEXD1H109Q	C ELECTRO	50V RT 1MF (6.3X11) TP	
RC908	HRFT472FCA	R CHIP	1/10 4.7K OHM F 2012		C311	CEXD1H109Q	C ELECTRO	50V RT 1MF (6.3X11) TP	
ZZ200	PTMPJ0J787	PCB MAIN (RHU) AS	DTO-29S3FC		C402	CEXF1C221V	C ELECTRO	16V RSS 220MF (8X11.5) TP	
C105	CEXF1C471V	C ELECTRO	16V RSS 470MF (10X12.5)TP		C403	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	
C401	CCXB2H472K	C CERA	500V B 4700PF K (TAPPING)		C408	CEXF1H470V	C ELECTRO	50V RSS 47MF (6.3X11) TP	
C405	CEXA2D229E	C ELECTRO	200V RUL 2.2MF (10X16) TP		C409	CEXF1C101V	C ELECTRO	16V RSS 100MF (6.3X11) TP	
C410	CEXF2E470V	C ELECTRO	250V RSS 47MF (16X25) TP		C411	CEXF1H470V	C ELECTRO	50V RSS 47MF (6.3X11) TP	A
C414	CEXF1V471V	C ELECTRO	35V RSS 470MF (10X20) TP		C412	CCXB2H102K	C CERA	500V B 1000PF K (TAPPING)	
C415	CEXF1C102V	C ELECTRO	16V RSS 1000MF (10X20) TP		C413	CCXB2H102K	C CERA	500V B 1000PF K (TAPPING)	
C504	CEXF1C471V	C ELECTRO	16V RSS 470MF (10X12.5)TP		C416	CCXB2H102K	C CERA	500V B 1000PF K (TAPPING)	
C514	CEXF1C471V	C ELECTRO	16V RSS 470MF (10X12.5)TP		C417	CCXB2H102K	C CERA	500V B 1000PF K (TAPPING)	
C602	CEXF1C471V	C ELECTRO	16V RSS 470MF (10X12.5)TP		C418	CMXB1H104J	C MYLAR	50V EU 0.1MF J (TP)	
C605	CEXF1C471V	C ELECTRO	16V RSS 470MF (10X12.5)TP		C501	CMXL1H105J	C MYLAR	50V MEU 1MF J	
C608	CEXF1C471V	C ELECTRO	16V RSS 470MF (10X12.5)TP		C502	CEXF1C221V	C ELECTRO	16V RSS 220MF (8X11.5) TP	
C815	CEXF2A470V	C ELECTRO	100V RSS 47MF (10X16) TP		C503	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	
C823	CCXB3D681K	C CERA	2KV B 6800PF K (TAPPING)		C505	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	
C824	CEXE2C100H	C ELECTRO	160V RUR 10MF (13X25) TP		C506	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	
C901	CEXF2E100V	C ELECTRO	250V RSS 10MF (10X20) TP		C507	CMXB1H224J	C MYLAR	50V EU 0.22MF J (TP)	
C902	CH1BEE472M	C CERA AC	U/C V 2.5KV 4700PF TP		C508	CMXB1H224J	C MYLAR	50V EU 0.22MF J (TP)	
ZZ200	PTMPJBJ787	PCB MAIN M-10 AS	DTO-29S3FC		C509	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	
P401A	4857417500	TERM PIN	DA-IB0214(D2.3/DY PIN)		C511	CMXB1H333J	C MYLAR	50V EU 0.033MF J (TP)	
P401B	4857417500	TERM PIN	DA-IB0214(D2.3/DY PIN)		C512	CEXF1H108V	C ELECTRO	50V RSS 0.1MF (5X11) TP	
P401C	4857417500	TERM PIN	DA-IB0214(D2.3/DY PIN)		C513	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	
P401D	4857417500	TERM PIN	DA-IB0214(D2.3/DY PIN)		C515	CEXF1H478V	C ELECTRO	50V RSS 0.47MF (5X11) TP	
P601	485923172S	CONN WAFER	YW025-04 (STICK)		C516	CEXF1H229V	C ELECTRO	50V RSS 2.2MF (5X11) TP	
P801A	4857417500	TERM PIN	DA-IB0214(D2.3/DY PIN)		C517	CMXB1H473J	C MYLAR	50V 0.047MF J (TP)	
P801B	4857417500	TERM PIN	DA-IB0214(D2.3/DY PIN)		C518	CEXF1H478V	C ELECTRO	50V RSS 0.47MF (5X11) TP	
R104	RS01Z472J-	R M-OXIDE FILM	1W 4.7K OHM J (TAPPING)		C555	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP	
R401	RF01Z229J-	R FUSIBLE	1W 2.2 OHM J (TAPPING)	R	C603	CEXF1H108V	C ELECTRO	50V RSS 0.1MF (5X11) TP	
R404	RF01Z398K-	R FUSIBLE	1W 0.39 OHM K (TAPPING)	R	C604	CEXF1H470V	C ELECTRO	50V RSS 47MF (6.3X11) TP	
R814	RF01Z398K-	R FUSIBLE	1W 0.39 OHM K (TAPPING)	R	C606	CEXF1H108V	C ELECTRO	50V RSS 0.1MF (5X11) TP	
ZZ200	PTMPJRK787	PCB MAIN RADIAL AS	DTO-29S3FC		C607	CEXF1H101V	C ELECTRO	50V RSS 100MF (8X11.5) TP	
C101	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP		C609	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP	
C102	CEXF1C101V	C ELECTRO	16V RSS 100MF (6.3X11) TP		C610	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP	
C103	CEXF1H229V	C ELECTRO	50V RSS 2.2MF (5X11) TP		C611	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP	
C104	CMXB1H333J	C MYLAR	50V EU 0.033MF J (TP)		C612	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP	
C106	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP		C613	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	
C107	CEXF1H228V	C ELECTRO	50V RSS 0.22MF (5X11) TP		C614	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	
C202	CEXD1H479F	C ELECTRO	50V RND 4.7MF (6.3X11) TP		C615	CEXF1H470V	C ELECTRO	50V RSS 47MF (6.3X11) TP	
C203	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP		C616	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	
C204	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP		C618	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	
C205	CEXF1E221V	C ELECTRO	25V RSS 220MF (8X11.5) TP		C619	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	
C301	CMXB1H103J	C MYLAR	50V EU 0.01MF J (TP)		C620	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	
C302	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP		C621	CEXF1H339V	C ELECTRO	50V RSS 3.3MF (5X11) TP	

**SERVICE PARTS LIST**

LOC	PART CODE	PART NAME	DESCRIPTION	REMARK	LOC	PART CODE	PART NAME	DESCRIPTION	REMARK
C622	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP		R812	RN01B301JS	R METAL FILM	1W 300 OHM J SMALL	
C623	CEXF1H470V	C ELECTRO	50V RSS 47MF (6.3X11) TP		R913	RN01B124JS	R METAL FILM	1W 120K OHM J SMALL	
C624	CEXF1H470V	C ELECTRO	50V RSS 47MF (6.3X11) TP		R914	RN01B124JS	R METAL FILM	1W 120K OHM J SMALL	
C626	CEXF1H229V	C ELECTRO	50V RSS 2.2MF (5X11) TP		R915	RN01B124JS	R METAL FILM	1W 120K OHM J SMALL	
C701	CEXF1H470V	C ELECTRO	50V RSS 47MF (6.3X11) TP		R917	RN02B189JS	R METAL FILM	2W 1.8 OHM J SMALL	②
C703	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP		SW701	5S50101090	SW TACT	SKHV17910A	
C704	CEXF1H229V	C ELECTRO	50V RSS 2.2MF (5X11) TP		SW702	5S50101090	SW TACT	SKHV17910A	
C705	CEXF1H109V	C ELECTRO	50V RSS 1MF (5X11) TP		SW703	5S50101090	SW TACT	SKHV17910A	
C709	CEXF1C221V	C ELECTRO	16V RSS 220MF (8X11.5) TP		SW704	5S50101090	SW TACT	SKHV17910A	
C802	CCXB2H222K	C CERA	500V B 2200PF K (TAPPING)		SW705	5S50101090	SW TACT	SKHV17910A	
C803	CCXB2H222K	C CERA	500V B 2200PF K (TAPPING)		SW706	5S50101090	SW TACT	SKHV17910A	
C806	CEXF1H470C	C ELECTRO	50V RUS 47MF (6.3X11) TP		X501	5XEX3R579C	CRYSTAL QUARTZ	HC-49U 3.579545M (TP)	
C810	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP		ZZ200	PTMPJAJ787	PCB MAIN AXIAL AS	DTQ-29S3FC	
C811	CCXB3A471K	C CERA	1KV B 470PF K (T)		10	2TM14006LB	TAPE MASKING	3M #232 6.0X2000M	
C813	CCXB3A471K	C CERA	1KV B 470PF K (T)		20	2TM10006LB	TAPE MASKING	3M #232-MAP-C 6.2X2000M	
C816	CCXB3A471K	C CERA	1KV B 470PF K (T)		A001	4859812791	PCB MAIN	246X246	
C818	CEXF1H220C	C ELECTRO	50V RUS 22MF (5X11) TP		D101	DUZ33B----	DIODE ZENER	UZ-33B	
C819	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP		D102	DUZ5R6BM--	DIODE ZENER	UZ-5.6BM(TAPPING)	
C822	CEXF1C101A	C ELECTRO	16V RSM 100MF (6.3X7) TP		D201	DUZ9R1BM--	DIODE ZENER	UZ-9.1BM 9.1V	
C832	CEXF1E101V	C ELECTRO	25V RSS 100MF (6.3X11) TP		D202	DUZ9R1BM--	DIODE ZENER	UZ-9.1BM 9.1V	
C903	CMXL1J224J	C MYLAR	63V MEU 0.22MF J (TP)		D301	D1N4004---	DIODE	1N4004	
C904	CMXL2E104K	C MYLAR	250V MEU 0.1MF K		D401	DRGP15J---	DIODE	RGP15J	②
F801A	4857415001	CLIP FUSE	PFC5000-0702		D405	D1N4937G--	DIODE	1N4937G (TAPPING)	②
F801B	4857415001	CLIP FUSE	PFC5000-0702		D406	D1N4937G--	DIODE	1N4937G (TAPPING)	
Q403	TKTC3198Y-	TR	KTC3198Y		D407	DRGP15J---	DIODE	RGP15J	
Q601	TKTC3198Y-	TR	KTC3198Y		D408	DRGP15J---	DIODE	RGP15J	
Q701	TKTC3198Y-	TR	KTC3198Y		D409	D1N4148---	DIODE	1N4148 (TAPPING)	
Q702	TKTC3198Y-	TR	KTC3198Y		D501	D1N4148---	DIODE	1N4148 (TAPPING)	
Q703	TKTC3198Y-	TR	KTC3198Y		D502	D1N4148---	DIODE	1N4148 (TAPPING)	
Q704	TKSA733CY-	TR	KSA733CY (TP)		D503	DUZ9R1BM--	DIODE ZENER	UZ-9.1BM 9.1V	
Q801	TKTC3198Y-	TR	KTC3198Y		D504	D1N4148---	DIODE	1N4148 (TAPPING)	
Q805	TKTC3205Y-	TR	KTC3205Y (TP)		D505	DUZ9R1BM--	DIODE ZENER	UZ-9.1BM 9.1V	
R301	RN02B202JS	R METAL FILM	2W 2K OHM J SMALL		D506	DUZ7R5BM--	DIODE ZENER	UZ-7.5BM 7.5V	
R302	RN01B331JS	R METAL FILM	1W 330 OHM J SMALL		D601	DUZ9R1BM--	DIODE ZENER	UZ-9.1BM 9.1V	
R303	RN01B109JS	R METAL FILM	1W 1 OHM J SMALL		D602	DUZ9R1BM--	DIODE ZENER	UZ-9.1BM 9.1V	
R304	RN01B109JS	R METAL FILM	1W 1 OHM J SMALL		D603	DUZ9R1BM--	DIODE ZENER	UZ-9.1BM 9.1V	
R305	RN02B271JS	R METAL FILM	2W 270 OHM J SMALL		D604	DUZ9R1BM--	DIODE ZENER	UZ-9.1BM 9.1V	
R402	RN02B102JS	R METAL FILM	2W 1K OHM J SMALL		D607	DUZ8R2BM--	DIODE ZENER	UZ-8.2B (8.2V)	
R403	RN02B103JS	R METAL FILM	2W 10K OHM J SMALL		D608	DUZ5R6BM--	DIODE ZENER	UZ-5.6BM(TAPPING)	
R405	RN02B181JS	R METAL FILM	2W 180 OHM J SMALL		D609	DUZ5R6BM--	DIODE ZENER	UZ-5.6BM(TAPPING)	
R407	RN02B229JS	R METAL FILM	2W 2.2 OHM J SMALL		D610	DUZ5R6BM--	DIODE ZENER	UZ-5.6BM(TAPPING)	
R408	RN02B229JS	R METAL FILM	2W 2.2 OHM J SMALL		D702	D1N4148---	DIODE	1N4148 (TAPPING)	
R419	RN02B101JS	R METAL FILM	2W 100 OHM J SMALL		D705	D1N4148---	DIODE	1N4148 (TAPPING)	
R420	RN02B620JS	R METAL FILM	2W 62 OHM J SMALL		D706	DUZ3R9B---	DIODE ZENER	UZ-3.9B	
R501	RN02B151JS	R METAL FILM	2W 150 OHM J SMALL		D805	DRGP15J---	DIODE	RGP15J	
R604	RN01B750JS	R METAL FILM	1W 75 OHM J SMALL		D806	DRGP15J---	DIODE	RGP15J	
R605	RN01B121JS	R METAL FILM	1W 120 OHM J SMALL		D808	DRGP15J---	DIODE	RGP15J	
R802	RN02B273JS	R METAL FILM	2W 27K OHM J SMALL		D810	DRGP15J---	DIODE	RGP15J	
R809	RN01B121JS	R METAL FILM	1W 120 OHM J SMALL		D812	DRGP15J---	DIODE	RGP15J	

## SERVICE PARTS LIST

**SERVICE PARTS LIST**

LOC	PART CODE	PART NAME	DESCRIPTION	REMARK	LOC	PART CODE	PART NAME	DESCRIPTION	REMARK
J124	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING		R411	RD-4Z202J-	R CARBON FILM	1/4 2K OHM J	
J125	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING		R414	RD-AZ103J-	R CARBON FILM	1/6 10K OHM J	
J126	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING		R432	RD-4Z220J-	R CARBON FILM	1/4 22 OHM J	
J127	85801065GY	WIRE COPPER	AWG22 1/0.65 TIN COATING		R502	RD-2Z151J-	R CARBON FILM	1/2 150 OHM J	
L112	5CPZ100K02	COIL PEAKING	10UH K (AXIAL 3.5MM)		R503	RD-4Z151J-	R CARBON FILM	1/4 150 OHM J	
L402	58C0000026	COIL BEAD	HC-4035		R504	RD-4Z562J-	R CARBON FILM	1/4 5.6K OHM J	
L502	5CPZ100K04	COIL PEAKING	10UH 10.5MM K (LAL04TB)		R554	RD-4Z102J-	R CARBON FILM	1/4 1K OHM J	
L533	5CPZ150K02	COIL PEAKING	15UH K (AXIAL 3.5MM)		R601	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
L601	5CPZ100K02	COIL PEAKING	10UH K (AXIAL 3.5MM)		R602	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
L602	5CPZ100K02	COIL PEAKING	10UH K (AXIAL 3.5MM)		R603	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
L603	5CPZ100K02	COIL PEAKING	10UH K (AXIAL 3.5MM)		R607	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
L604	5CPZ100K02	COIL PEAKING	10UH K (AXIAL 3.5MM)		R701	RD-4Z240J-	R CARBON FILM	1/4 24 OHM J	
L606	5CPZ150K02	COIL PEAKING	15UH K (AXIAL 3.5MM)		R702	RD-AZ102J-	R CARBON FILM	1/6 1K OHM J	
L701	5CPZ100K02	COIL PEAKING	10UH K (AXIAL 3.5MM)		R803	RC-2Z565KP	R CARBON COMP	1/2 5.6M OHM K	(R)▲
L704	5CPZ100K02	COIL PEAKING	10UH K (AXIAL 3.5MM)		R804	RC-2Z105KP	R CARBON COMP	1/2 1M OHM K	
L802	5MC0000100	COIL BEAD	HC-3550		R813	RD-4Z363J-	R CARBON FILM	1/4 36K OHM J	
L803	5MC0000100	COIL BEAD	HC-3550		R815	RD-4Z223J-	R CARBON FILM	1/4 22K OHM J	
L804	5MC0000100	COIL BEAD	HC-3550		R825	RD-4Z223J-	R CARBON FILM	1/4 22K OHM J	
L806	5MC0000100	COIL BEAD	HC-3550		R828	RD-4Z561J-	R CARBON FILM	1/4 560 OHM J	
R165	RD-AZ472J-	R CARBON FILM	1/6 4.7K OHM J		R901	RD-4Z105J-	R CARBON FILM	1/4 1M OHM J	
R201	RD-4Z750J-	R CARBON FILM	1/4 75 OHM J		R910	RD-2Z102J-	R CARBON FILM	1/2 1K OHM J	
R306	RD-4Z134J-	R CARBON FILM	1/4 130K OHM J		R911	RD-2Z102J-	R CARBON FILM	1/2 1K OHM J	
R307	RD-4Z153J-	R CARBON FILM	1/4 15K OHM J		R912	RD-2Z102J-	R CARBON FILM	1/2 1K OHM J	
R409	RD-AZ103J-	R CARBON FILM	1/4 10K OHM J	▲	R916	RD-AZ153J-	R CARBON FILM	1/6 15K OHM J	
R410	RD-4Z163J-	R CARBON FILM	1/4 16K OHM J	▲					

## SERVICE PARTS LIST

### 1. DIFFERENT PARTS LIST

LOC	PART CODE	PART NAME	DESCRIPTION	29S3FC	26S3FC	26S3FCM
C203	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP	1	0	0
C204	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP	1	0	0
C205	CEXF1E221V	C ELECTRO	25V RSS 220MF (8X11.5) TP	1	0	0
C406	CMYE2G474J	C MYLAR	400V PU 0.47MF J	1	0	0
C406	CMYE2G514J	C MYLAR	400V PU 0.51MF J	0	1	1
C601	CMXB1H103J	C MYLAR	50V EU 0.01MF J (TP)	0	0	1
C603	CEXF1H108V	C ELECTRO	50V RSS 0.1MF (5X11) TP	1	0	0
C605	CEXF1C471V	C ELECTRO	16V RSS 470MF (10X12.5)TP	1	0	0
C610	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP	1	0	0
C611	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP	1	0	0
C612	CEXF1H479V	C ELECTRO	50V RSS 4.7MF (5X11) TP	1	0	0
C613	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	1	0	0
C614	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	1	0	0
C615	CEXF1H470V	C ELECTRO	50V RSS 47MF (6.3X11) TP	1	0	0
C616	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	1	0	0
C618	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	1	0	0
C619	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	1	0	0
C620	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	1	0	0
C621	CEXF1H339V	C ELECTRO	50V RSS 3.3MF (5X11) TP	1	0	0
C622	CEXF1H100V	C ELECTRO	50V RSS 10MF (5X11) TP	1	0	0
C623	CEXF1H470V	C ELECTRO	50V RSS 47MF (6.3X11) TP	1	0	0
C624	CEXF1H470V	C ELECTRO	50V RSS 47MF (6.3X11) TP	1	0	0
C626	CEXF1H229V	C ELECTRO	50V RSS 2.2MF (5X11) TP	1	0	0
D202	DUZ9R1BM--	DIODE ZENER	UZ- 9.1BM 9.1V	1	0	0
D602	DUZ9R1BM--	DIODE ZENER	UZ- 9.1BM 9.1V	1	0	0
D603	DUZ9R1BM--	DIODE ZENER	UZ- 9.1BM 9.1V	1	0	0
D604	DUZ9R1BM--	DIODE ZENER	UZ- 9.1BM 9.1V	1	0	0
D607	DUZ8R2BM--	DIODE ZENER	UZ- 8.2B (8.2V)	1	0	0
D608	DUZ5R6BM--	DIODE ZENER	UZ- 5.6BM(TAPPING)	1	0	0
D609	DUZ5R6BM--	DIODE ZENER	UZ- 5.6BM(TAPPING)	1	0	0
D610	DUZ5R6BM--	DIODE ZENER	UZ- 5.6BM(TAPPING)	1	0	0
I602	1TDA7267A-	IC AMP	TDA7267A	1	0	0
I603	1MSP3435G-	IC SOUND	MSP- 3435G	1	0	0
I604	1K1A7805P1	IC REGULATOR	KIA7805API	1	0	0
IV1	1TA7347P--	IC SWITCH	TA7347P	1	0	0
JA001	4859109250	JACK PIN BOARD	PH- JB- 9614A	1	0	0
JA001	4859109150	JACK PIN BOARD	PH- JB- 9615C	0	0	1
JA002	4859108450	JACK PIN BOARD	YSC03P- 4120- 14A	1	0	0
L401	58H0000025	COIL H- LINEARITY	TRL- 330	1	0	0
L401	58H0000056	COIL H- LINEARITY	TRL- 250D	0	1	1
L601	5CPZ100K02	COIL PEAKING	10UH K (AXIAL 3.5MM)	1	0	0
L602	5CPZ100K02	COIL PEAKING	10UH K (AXIAL 3.5MM)	1	0	0
L603	5CPZ100K02	COIL PEAKING	10UH K (AXIAL 3.5MM)	1	0	0
L604	5CPZ100K02	COIL PEAKING	10UH K (AXIAL 3.5MM)	1	0	0

**SERVICE PARTS LIST**

LOC	PART CODE	PART NAME	DESCRIPTION	29S3FC	26S3FC	26S3FCM
L606	5CPZ150K02	COIL PEAKING	15UH K (AXIAL 3.5MM)	1	0	0
P401A	4850704S35	CONNECTOR	YFH800- 04+YDT236+ULW=500	1	0	0
P601A	4850704S38	CONNECTOR	YH025- 04+35098+ULW=400	1	0	0
P601A	4850704S25	CONNECTOR	YH025- 04+35098+ULW=300	0	0	1
R104	RS01Z472J-	R M- OXIDE FILM	1W 4.7K OHM J (TAPPING)	1	0	1
R404	RF01Z398K-	R FUSIBLE	1W 0.39 OHM K (TAPPING)	1	0	0
R404	RS01Z279J-	R M- OXIDE FILM	1W 2.7 OHM J (TAPPING)	0	0	1
R410	RD- 4Z163J-	R CARBON FILM	1/4 16K OHM J	1	0	0
R410	RD- 4Z133J-	R CARBON FILM	1/4 13K OHM J	0	1	1
R420	RN02B620JS	R METAL FILM	2W 62 OHM J SMALL	1	0	1
R601	RD- AZ102J-	R CARBON FILM	1/6 1K OHM J	1	0	0
R602	RD- AZ102J-	R CARBON FILM	1/6 1K OHM J	1	0	0
R603	RD- AZ102J-	R CARBON FILM	1/6 1K OHM J	1	0	0
R604	RN01B750JS	R METAL FILM	1W 75 OHM J SMALL	1	0	0
R605	RN01B121JS	R METAL FILM	1W 120 OHM J SMALL	1	0	0
R620	RD- AZ472J-	R CARBON FILM	1/6 4.7K OHM J	0	0	1
R802	RN02B273JS	R METAL FILM	2W 27K OHM J SMALL	1	0	1
SP2	4858305220	SPEAKER	3W 8 OHM MSF- 2D30SB02U	1	0	0
X601	5XE18R432E	CRYSTAL QUARTZ	HC- 49/U 18.43200MHZ 30PPM	1	0	0
ZZ131	58G0000143	COIL DEGAUSSING	DC- 29S1	1	0	0
ZZ131	58G0000142	COIL DEGAUSSING	DC- 25S1	0	1	1
ZZ132	48519A6210	CRT GROUND AS	GND LINE IEA 29	1	0	0
ZZ132	48519A6110	CRT GROUND AS	GND LINE IEA 26	0	1	1

# IC DESCRIPTION

## Appendix

U-COM(I701)

TV ONLY (H)	1	P10	P07	42	POWER ON(H)
CAPTION	2	P11	P06	41	Degaussing SW
ST / MONO	3	P12	P05	40	AUDIO MUTE(H)
	4	P13/PWM1	P04	39	NC
BLUE BACK	5	P14/PWM2	P03	38	SOUND RESET
26"29" OPTION	6	P15/PWM3	P02	37	H.OUT ON(L)/OFF(H)
AUTO TINT	7	P16	P01	36	POWER ON
NC	8	P17/PWM	P00	35	ST-BY(H)
	9	VSS	P73/INT3/TOIN	34	REMOCON IN
	10	XT1	P72/INT2/TOIN	33	NC
	11	XT2	P71/INT1	32	NC
	12	VDD	P70/INT0	31	NC
KEY IN	13	P84/AN4	P63/SCLK1	30	MSP_CLK
AFT IN	14	P85/AN5	P62/SDA1	29	MSP_DATA
AGC IN	15	P86/AN6	P61/SCLK0	28	M/T_CLK
SPARE A/D	16	P87/AN7	P60/SDA0	27	M/T_DATA
	17	RES	I	26	
	18	FILT	BL	25	
	19	CVIN	B	24	
	20	VS	G	23	
	21	HS	R	22	

- X'TAL : 32.768 KHz

## 1. Abstract.

This specification is 1-Tuner Mono Model for North/South America, CCD 1-Chip MICOM LC863240V.  
It is developing software specification for tuning only NTSC TV F/S.

## 2. H/W Outline.

- 1) ROM : 28,672 x 8bits.tsc
  - : 15,872 x 8 bits for CGROM.
- 2) RAM : 512 x 8bits.
  - : 336 x 9bits.(for CRT Display)
- 3) OSD Function.
  - Screen Display. : 34 characters x 16 lines.(by software)
  - RAM : 336 words. (9 bits per word)
    - Display area. : 34 words. x 8 lines.
    - 1st control area. : 8 words. x 8 lines.
  - Characters.
    - 244 patterns programmable.
    - Up to 244 kinds of 16 x 17 dot characters.
    - Up to 244 kinds of 8 x 9 dot characters.
      - or
      - Up to 244 kinds of 16 x 32 dot characters used 16K bytes.
  - Various characters attributes.
    - Character colors. : 16 colors
    - Character background colors. : 16 colors
    - Fringe / shadow colors. : 16 colors
    - Full screen colors. : 16 colors
    - Rounding.
    - Underline.
    - Italic character.(slanting)
  - Attribute can be changed without spacing.
  - Vertical display start line number can be set for each row independently.(Row can be overlapped.)
  - Horizontal display start position can be set for each row independently.
  - Different display modes can be set for each row independently.
    - Caption and Text mode/ OSD mode 1/ OSD mode 2(Quarter size)/ Simplified graphic mode.
  - Ten character sizes.
    - Horiz. x Vert. = (1x1),(1x2),(2x2),(2x4),(0.5x0.5)  
(1.5x1),(1.5x2),(3x2),(3x4),(0.75x0.5)
  - Shuttering and scrolling on each row.

## 3. System Feature.

- 1) The system for TV tuning is Frequency Synthesis type.
- 2) Closed Captions function is interior designed.

- 3) On Screen Displays function is interior designed.
- 4) Package. : 42 PIN SDIP.
- 5) Tuner (Pre-scaler.) : I<sup>2</sup>C Bus.  
/PLL IC : TAU 6014-S(SIEMENS).
- 6) Remocon. : The IC of Transmission (MITSUBISHI M50560)
- 7) E<sup>2</sup>PROM. : 24C16(I<sup>2</sup>C Bus) ◇ Apply one byte Read/Write mode.
- 8) 6-Local Key. : A/D Input Control.(Power, Ch Up/Down, Vol Up/Down, Menu)
- 9) Option S/W : Port Input Option Check.
- 10) IF/V/C/D IC : DCT814B( The only NTSC)

#### 4. Function.

- 1) C. C. D. function.
  - A section of C. C. D. operates FCC based specification.
- 2) C. C. D. controlled function.
  - Closed Caption Mode. (Off<-->C1<-->C2<-->T1<-->T2<-->Off)
  - CC On Mute.(Off <-->C1<-->C2<-->Off)
  - Closed Caption is prior to CC On Mute.
- 3) Tuning Function.
  - I<sup>2</sup>C Bus.
  - PLL IC Interface.
  - FS 181 Channel (AIR 2-69CH, CABLE 1-125CH)
  - AFT Operation(Fine Tuning ) -2.5Fn+2.5MHz
  - AIR/CABLE (STD, HRC, IRC ). Only Cable 5,6CH is that AFT range is cover over broad-band. -2.5MHzFn+3.5MHz..
  - Memorize Channels.(If a channel is broadcasting, the channel is memorized.)
  - Direct Tuning(09KEY)
  - Channel Up/Down.(Memorized Channels) -> The Ch Up/Down buttons on the Remocon and on the front panel are same function.
  - Search Channel Up/Down.(If No-Memory or only 1CH is Memory)
  - Channel Memory.(ADD/DELETE)
  - Channel Review Function.
  - Last Channel Memory Function.
- 4) OSD Function.
  - In Line(Video) Mode, Things(Items) that is concerned with Air and Cable disappear in the Menu.
  - Channel, AV display.
  - Small & Graphic ICON Menu.
  - Volume / Picture control --> I<sup>2</sup>C Bus Control
- 5) The Others Function.
  - Video/Audio Mute Function.
  - If a Channel is no signal, after 15 minutes is Auto-Power Off Function.

- Auto Power On Function.(Power Restore function in the Special Menu)
- Heat Run Function. --- OSD White Back-Ground
- Sleep Timer.
- Wake Up Time Function.
- Off Time Function.
- Remote Reception & Control.
- Auto Tint.
- Power Restore.
- Input(TV/Line) Controlled function. ----- (Option)
- Reception.(Air/Cable : Factory Initial Condition)----- (Option)
- Blue Background.----- (Option)
- 3-Language (North America : ENG/SPA/FRA, South America : ENG/SPA/POR ).
- E<sup>2</sup>PROM Interface (I<sup>2</sup>C Bus Control)
- CH 6 TRAP Function.(IS-31 )
- PLL IC Band Data.(Control Byte 2-->P3~P0)

VHF L : 1

VHF H : 2

CH6 TRAP : 5 (IS-31) AIR(Cable) CH 6 Only

UHF : 8

## 5. Pin Description

PIN	Terminal	Name	Explanation	Remarks								
1	P10	Input (Option)	- High(DC_5V) : The only TV. - Low(DC_0V) : Line.(Video)									
2	P11	Reception (Option)	- High(DC_5V) : Cable. - Low(DC_0V) : Air.									
3	P12	Audio (Option)	- High(DC_5V) : Mono. - Low(DC_0V) : Stereo.									
4	P13/PWM1	Remocon (Option)	- High(DC_5V) : Mitsubishi. - Low(DC_0V) : Daewoo(Only at Factory)									
5	P14/PWM2	Blue Back (Option)	- High(DC_5V) : No Blue Back. - Low(DC_0V) : Blue Back.									
6	P15/PWM3	Option (V-Chip)	- High(DC_5V) : V-Chip. - Low(DC_0V) : No V-Chip.									
7	P16	Option (Auto Tint)	- High(DC_5V) : Auto Tint. - Low(DC_0V) : No Auto Tint.									
8	P17/PWM	PWM (Cn-220 only)	<ul style="list-style-type: none"> <li>- The 8 pin is a spare pin.</li> <li>- Pin 1 to Pin 8.</li> <li>- 8-bit input / output port.</li> <li>- Input /Output can be specified in a bit.</li> <li>- Other function.</li> </ul> <table border="1" style="margin-top: 10px;"> <tr><td>P13</td><td>PWM 1 output</td></tr> <tr><td>P14</td><td>PWM 2 output</td></tr> <tr><td>P15</td><td>PWM 3 output</td></tr> <tr><td>P16</td><td>Timer 1(PWM) output.</td></tr> </table> <p>- This use cn220 but don't use cn001.</p>	P13	PWM 1 output	P14	PWM 2 output	P15	PWM 3 output	P16	Timer 1(PWM) output.	<ul style="list-style-type: none"> <li>- Output Format.</li> <li>- CMOS/Nch -OD.</li> </ul>
P13	PWM 1 output											
P14	PWM 2 output											
P15	PWM 3 output											
P16	Timer 1(PWM) output.											
9	VSS	GND	<ul style="list-style-type: none"> <li>- GND</li> <li>- Negative power supply.</li> </ul>									
10	XT1	XT1	<ul style="list-style-type: none"> <li>- It uses 32.768KHz X-TAL.</li> </ul>									
11	XT2	XT2	<ul style="list-style-type: none"> <li>- 10 pin is input terminal for crystal oscillator.</li> <li>- 11 pin is output terminal for crystal oscillator.</li> </ul>									
12	VDD	VDD	<ul style="list-style-type: none"> <li>- +5V(<math>\pm 0.5V</math>)</li> <li>- Positive power supply.</li> </ul>									
13	P84 / AN4	KEY IN	<ul style="list-style-type: none"> <li>- Power, Ch up/down, Vol up/down, Menu.</li> </ul>									
14	P85 / AN5	AFT IN	<ul style="list-style-type: none"> <li>- DC value that comes from the 10 pin of LA76810/14</li> </ul>									
15	P86 / AN6	AGC IN	<ul style="list-style-type: none"> <li>- Connect this port to AGC of Tuner</li> <li>- Default Voltage. : 3.75V</li> <li>- Variable Voltages.: 3.25V, 3.5V, 4.0V</li> </ul>									

Pin	Terminal	Name	Explanation	Remarks								
16	P87 / AN7	SPARE A/D	<ul style="list-style-type: none"> <li>- 16 pin is a spare pin..</li> <li>- 13 pin to 16 pin.</li> <li>- 4 bit input/output port, Nch-OD output.</li> <li>- Input or output can be specified for each bit.</li> <li>- Other function.</li> <li>.AD converter input port (4 lines).</li> </ul>									
17	/RES	/RES	<ul style="list-style-type: none"> <li>- Reset terminal.</li> <li>- Active Low.</li> </ul>									
18	FILT	Filter	<ul style="list-style-type: none"> <li>- Filter terminal for PLL.</li> <li>- Output terminal.</li> </ul>									
19	CVIN	CVSB IN	<ul style="list-style-type: none"> <li>- Video signal input terminal..</li> </ul>									
20	/VS	/VS	<ul style="list-style-type: none"> <li>- Vertical synchronization signal input terminal.</li> </ul>									
21	/HS	/HS	<ul style="list-style-type: none"> <li>- Horizontal synchronization signal input terminal.</li> </ul>									
22	R	R	<ul style="list-style-type: none"> <li>- Red output terminal of RGB image.</li> </ul>									
23	G	G	<ul style="list-style-type: none"> <li>- Green output terminal of RGB image.</li> </ul>									
24	B	B	<ul style="list-style-type: none"> <li>- Blue output terminal of RGB image.</li> </ul>									
25	BL	BL	<ul style="list-style-type: none"> <li>- Fast blanking control signal.</li> <li>- Switch TV image signal and caption / OSD image signal.</li> <li>- Output terminal.</li> </ul>									
26	I	I	<ul style="list-style-type: none"> <li>- Intensity output terminal of RGB image signal.</li> <li>- Output terminal.</li> </ul>									
27	P60/ SDA 0	ROM Data Main IC Data	<ul style="list-style-type: none"> <li>- 6-bit input/ output port.</li> <li>- Input / output can be specified for each bit.</li> <li>- Other function.</li> </ul>									
28	P61/ SCLK 0	ROM CLK Main IC CLK	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>P60</td><td>IIC0 data I/O</td></tr> <tr> <td>P61</td><td>IIC0 clock output.</td></tr> <tr> <td>P62</td><td>IIC1 data I/O.</td></tr> <tr> <td>P63</td><td>IIC1 clock output.</td></tr> </table>	P60	IIC0 data I/O	P61	IIC0 clock output.	P62	IIC1 data I/O.	P63	IIC1 clock output.	
P60	IIC0 data I/O											
P61	IIC0 clock output.											
P62	IIC1 data I/O.											
P63	IIC1 clock output.											
29	P62/ SDA 1	Tuner Data										
30	P63/ SCLK 1	Tuner CLK										

Pin	Terminal	Name	Explanation							Remarks	
31	P70 / INT 0	Sound Input	<ul style="list-style-type: none"> <li>- 4-bit input/ output port.</li> <li>- Input or output can be specified for each bit.</li> <li>- # 31 : . Only Cn-220, ITT(MSP)</li> </ul>								
32	P71 / INT 1	N.C									
33	P72 / INT 2/ T0 IN	SD In	<ul style="list-style-type: none"> <li>Low : Front Mask /Mono, High : Back / Stereo.</li> <li>- Other function</li> </ul>								
			R	F	R/F	H	L	V			
	INT0	E	E	D	E	E		03H			
	INT1	E	E	D	E	E		0BH			
	INT2	E	E	E		D	D	13H			
	INT3	E	E	E	D	D		1BH			
			<ul style="list-style-type: none"> <li>- Interrupt receiver format, vector addresses.</li> </ul>								
34	P72 / INT 3 / T0 IN	Remocon In	P70	INT0input/HOLDrelease input/Nch-Tr. output for watchdog timer.							
			P71	INT1 input/HOLD release input.							
			P72	INT2 input /Timer 0.event input.							
			P73	INT3 input(noise rejection filter attached)/Timer							
			<ul style="list-style-type: none"> <li>♣ Notice ☐ R: Rising, F: falling, H: H level, L: L level, V: Vector, E: Enable, D: Disable.</li> </ul>								
35	P00	ST_By LED	<ul style="list-style-type: none"> <li>- Use only Japan Model.</li> <li>- This port uses when is Stand-By status.</li> <li>- Condition : Input AC Power On.</li> <li>- Power off : ‘High(DC 5V)’ Output.(Red)</li> <li>- Power on : ‘Low(DC 0V)’Output.</li> </ul>								
36	P01	TV/VIDEO	- TV Mode : ‘High’ Line(Video) Mode : ‘Low’.								
37	P02	H.Out	- Use to discharge High Voltage when TV set turns off.								
38	P03	Sound Reset	- Sound IC Reset : ITT.							-Only Cn-220	
39	P04	AKB	-Use when control AKB(High Beam: ‘High(5V)’ Output)								
40	P05	Audio Mute	-Use only ‘read data’ of ‘LA76814/10.								
41	P06	Video White	-Use when TV set turns off.								
42	P07	Power	<ul style="list-style-type: none"> <li>- Use when does power off/on.</li> <li>- Power Off : Output ‘Low(DC 0V)’</li> <li>. Power On : Output ‘High(DC 5V)’</li> </ul>								

Output form and existence of pull-up resistor for every port can be specified for each bit.

At port 1, “Programmable pull-up resistor provided” when specifying either CMOS or N-ch open drain output.

Port status in reset.

Terminal	I / O	Pull-up resistor status at selecting pull-up option.
Port 0	I	Pull-up resistor OFF, ON after reset release.
Port 1	I	Programmable pull-up resister OFF.

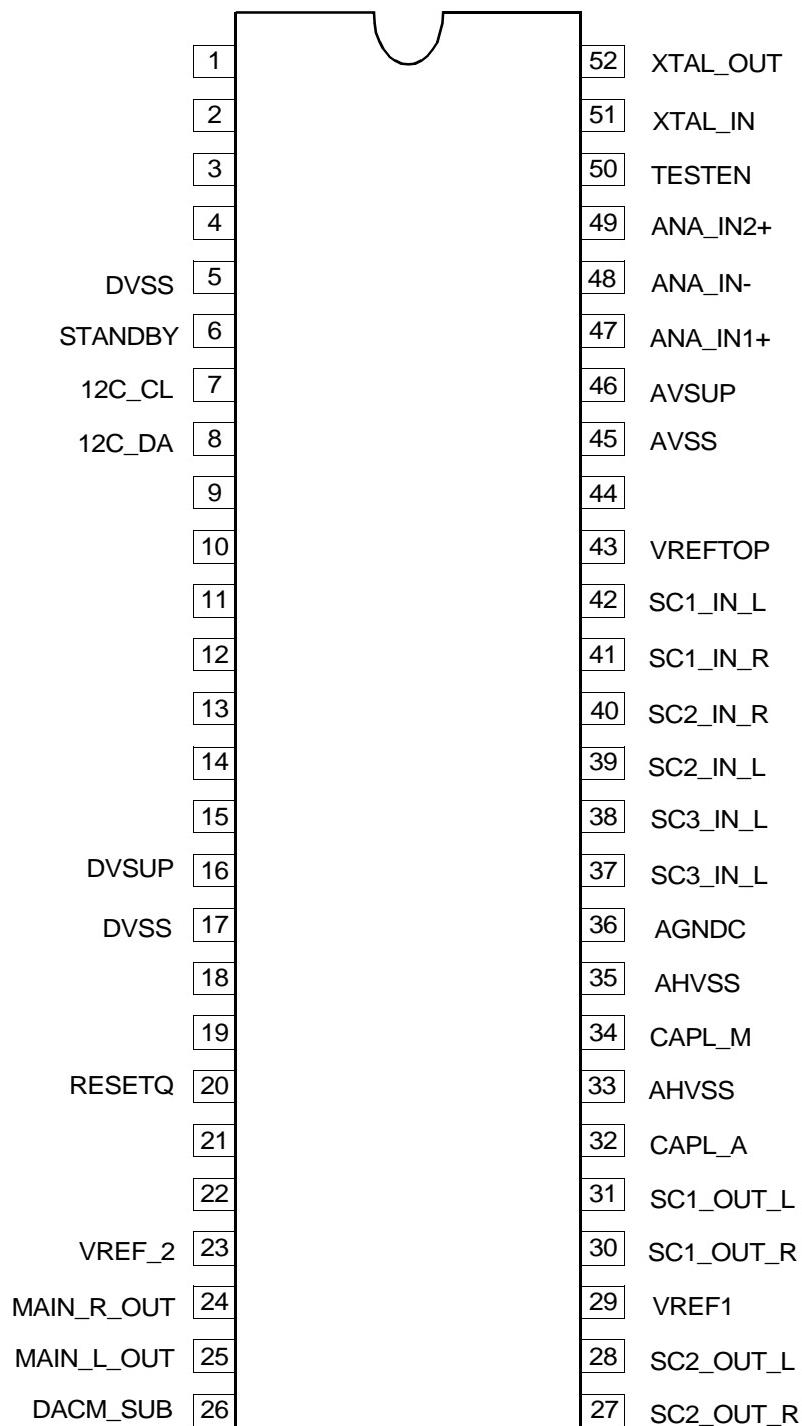
**I101**

DCT814B : IC VIDEO PROCESSOR

AUDIO OUT	1		54	SIF INPUT
FM OUTPUT	2		53	SIF APC FILTER
PIF AGC	3		52	SIF OUTPUT
RF AGC OUT	4		51	EXT. AUDIO INPUT
PIF INPUT1	5		50	VCO FILTER
PIF INPUT2	6		49	VCO COIL1
IF GND	7		48	VCO COIL2
IF VCC	8		47	APC FILTER
FM FILTER	9		46	VIDEO OUTPUT
AFT OUTPUT	10		45	BLACK LEVEL DETECTOR
BUS DATA	11		44	INT. VIDEO INPUT(S-C IN)
BUS CLOCK	12		43	VIDEO/VER. VCC
ABL IN	13		42	EX. VIDEO INPUT(Y IN)
OSD RED INPUT	14		41	VIDEO/VER./BUS GND
OSD GREEN INPUT	15		40	VIDEO OUTPUT
OSD BLUE INPUT	16		39	CHROMA AFC1 FILTER
FAST BLANKING INPUT	17		38	3.58 CRYSTAL
RGB VCC	18		37	fsc OUTPUT
RED OUTPUT	19		36	CHROMA AFC2 FILTER
GREEN OUTPUT	20		35	
BLUE OUTPUT	21		34	X-RAY INPUT
B.AKB INPUT	22		33	CCD/HOR. GND
VERTICAL OUTPUT	23		32	CCD FILTER
RAMP ALC FILTER	24		31	CCD VCC
HOR./BUS VCC	25		30	CLOCK(4MHz) OUTPUT
HOR. AFC FILTER	26		29	VCO IREF
HORIZONTAL OUTPUT	27		28	FBP INPUT

**I603**

MSP3435G : SOUND PROCESSOR



**PIN CONNECTIONS AND SHORT DESCRIPTIONS**

NC = not connected; leave vacant

LV = if not used, leave vacant

OBL = obligatory; connect as described in circuit diagram

DVSS: if not used, connect to DVSS

AHVSS: connect to AHVSS

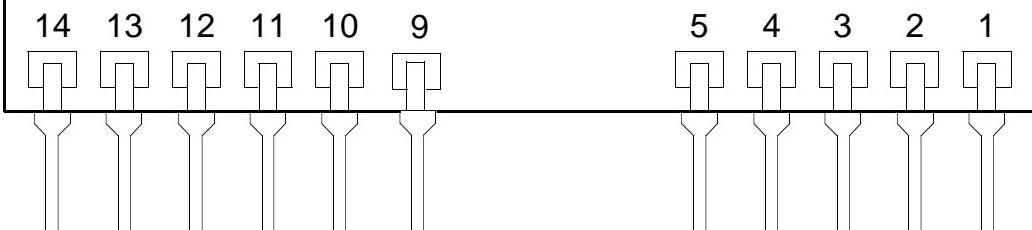
<b>PIN NO.</b>	<b>PIN NAME</b>	<b>TYPE</b>	<b>CONNECTION (if not used)</b>	<b>SHORT DESCRIPTION</b>
1	TP		LV	TEST PIN
2	AUD_CL_OUT	OUT	LV	AUDIO CLOCK OUT PUT(18.432MHz)
3	D_CTR_I/O_1	IN/OUT	LV	D_CTR_I/O_1
4	D_CTR_I/O_0	IN	LV	D_CTR_I/O_0
5	ADR_SEL	IN	OBL	I <sup>2</sup> C BUS ADDRESS SELECT
6	STANDBYQ	IN	OBL	STAND-BY(LOW-ACTIVE)
7	12C_CL	IN/OUT	OBL	I <sup>2</sup> C CLOCK
8	12C_DA	IN/OUT	OBL	I <sup>2</sup> C DATA
9	12S_CL	IN/OUT	LV	I <sup>2</sup> S CLOCK
10	12S_WS	IN/OUT	LV	I <sup>2</sup> S WORD STROBE
11	12S_DA_OUT	OUT	LV	I <sup>2</sup> S1 DATA OUTPUT
12	12S_DA_IN1	IN	LV	I <sup>2</sup> S1 DATA INPUT
13	ADR_DA	OUT	LV	ADR data output
14	ADR_WS	OUT	LV	ADR word strobe
15	ADR_CL	OUT	LV	ADR clock
16	DVSUP		OBL	Digital ground
17	DVSS		OBL	Digital ground
18	I2S_DA_IN2	IN	LV	I <sup>2</sup> S2-data input
19	NC		LV	NOT connected
20	RESETQ	IN	OBL	Power-on-reset
21	DACA_R	OUT	LV	"Headphone out, right"
22	DACA_L	OUT	LV	"Headphone out, left"
23	VREF2		OBL	Reference ground 2
24	DACM_R	OUT	LV	"Loudspeaker out, right"
25	DACM_L	OUT	LV	"Loudspeaker out, left"
26	DACM_SUB	OUT	LV	Subwoofer output
27	SC2_OUT_R	OUT	LV	"SCART output 2, right"
28	SC2_OUT_L	OUT	LV	"SCART output 2, left"
29	VREF1		OBL	Reference ground 1
30	SC1_OUT_R	OUT	LV	"SCART output1, right"
31	SC1_OUT_L	OUT	LV	"SCART output1, left"

PIN NO.	PIN NAME	TYPE	CONNECTION (if not used)	SHORT DESCRIPTION
PSDIP 52- PIN				
32	CAPL_A		OBL	Volume capacitor AUX
33	AHVSUP		OBL	Analog power supply 8V
34	CAPL_M		OBL	Volume capacitor MAIN
35	AHVSS		OBL	Analog ground
36	AGNDC		OBL	Analog reference voltage
37	SC3_IN_L	IN	LV	"SCART3 input, left"
38	SC3_IN_R	IN	LV	"SCART3 input, right"
39	SC2_IN_L	IN	LV	"SCART2 input , left"
40	SC2_IN_R	IN	LV	"SCART2 input, right"
41	SC1_IN_L	IN	LV	"SCART1 input, left"
42	SC1_IN_R	IN	LV	"SCART1 input, right"
43	VREFTOP		OBL	Reference voltage IF A/D converter
44	MONO_IN	IN	LV	Mono input
45	AVSS		OBL	Analog ground
46	AVSUP		OBL	Analog power supply 5V
47	ANA_IN+	IN	LV	IF input
48	ANA_IN-	IN	AVSS VIA 56pF/LV	"IF common(can be left vacant, only if IF input 1 is also not in use)"
49	ANA_IN2+	IN	AVSS VIA 56pF/LV	"IF input2(can be left vacant, only if IF input 1 is also not not in use)"
50	TESTEN	IN	OBL	TEST PIN
51	XTAL_IN	IN	OBL	CRYSTAL OSCILLATOR
52	XTAL_OUT	OUT	OBL	CRYSTAL OSCILLATOR

**I801**

POWER CONTROL MODULE

DPM 011 TIA  
KSE



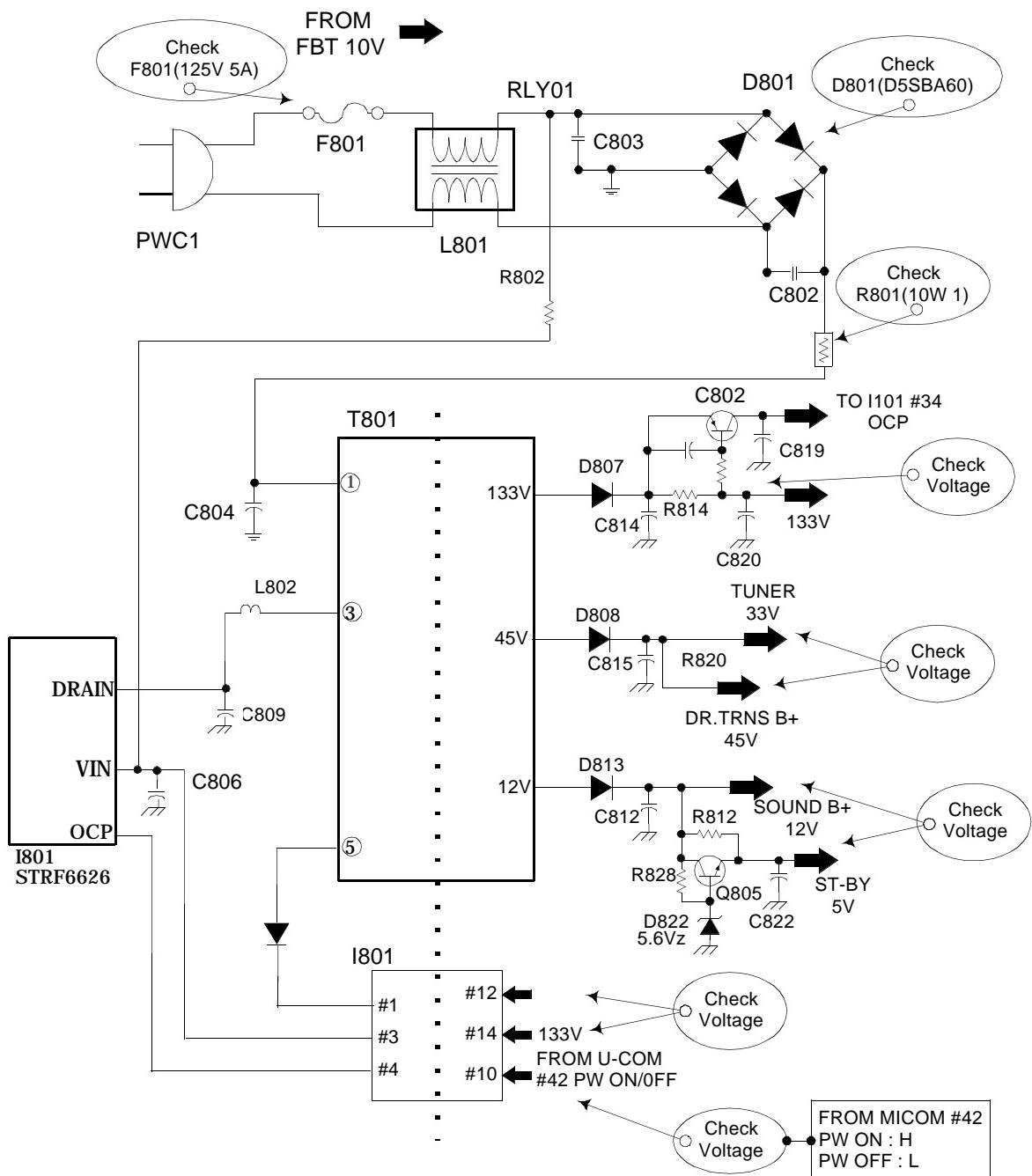
PIN NO	DESCRIPTION	PIN NO	DESCRIPTION
1	ST-BY VCC	10	POWER ON
2	DELAY	11	ON/OFF
3	VCC	12	ON/OFF PULSE
4	FB	13	GND2
5	GND1	14	+133V INPUT
9	+8V		

# TROUBLESHOOTING GUIDE

Appendix

## 1. NO POWER

If MICOM(I701) is DW863240V-EA1, set does not operate, or remocon does not operate, then ~~Replace DW863240V-EA1 with DW863240V-EA2(I701)~~ ~~Replace 24LC16B(I703) with 24LC16B(I703) which ROM DATA was written : A.S PARTS~~

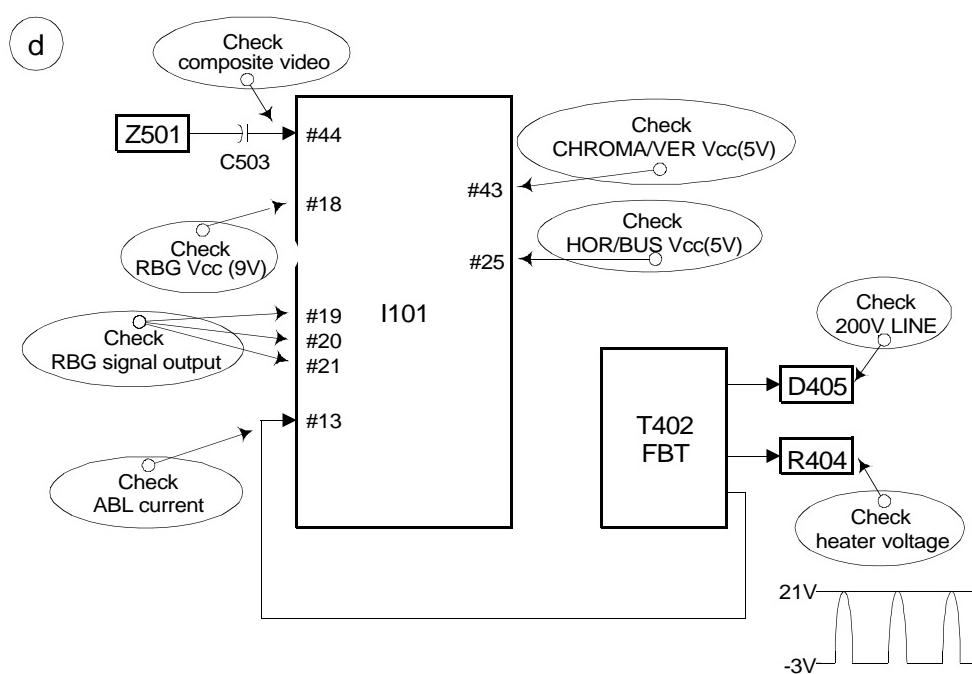
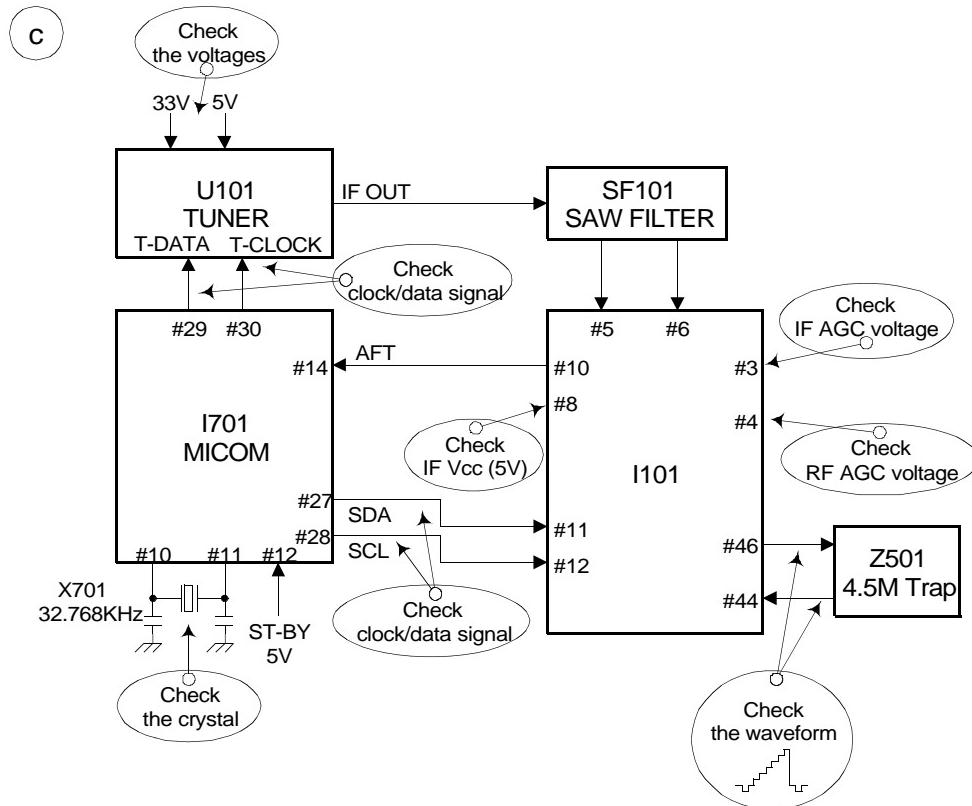


## 2. NO PICTURE

Check the waveform of I101 #46

NG : GO to the figure ©

OK : Go the figure ④

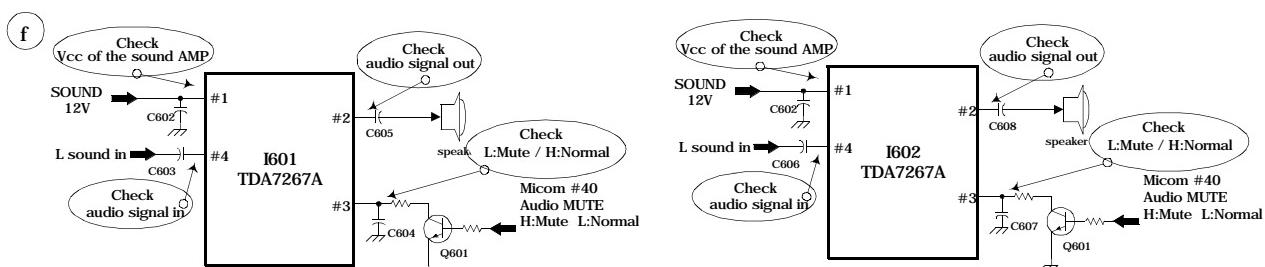
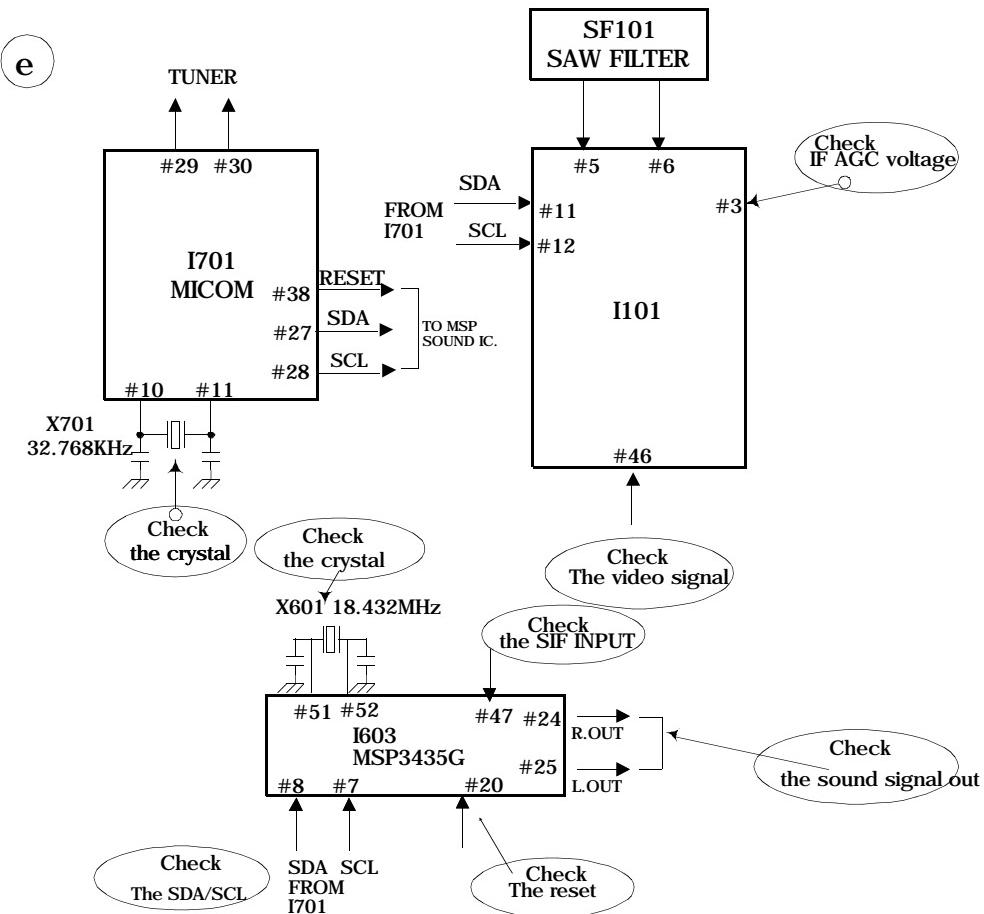


## 3.1 NO SOUND(DTQ-29S3FC/DTQ-26S3FC)

Check audio output signal of I601 #24 #25

NG : Go to the figure e

OK : Go to the figure f



: R, SOUND CHECK

: L, SOUND CHECK

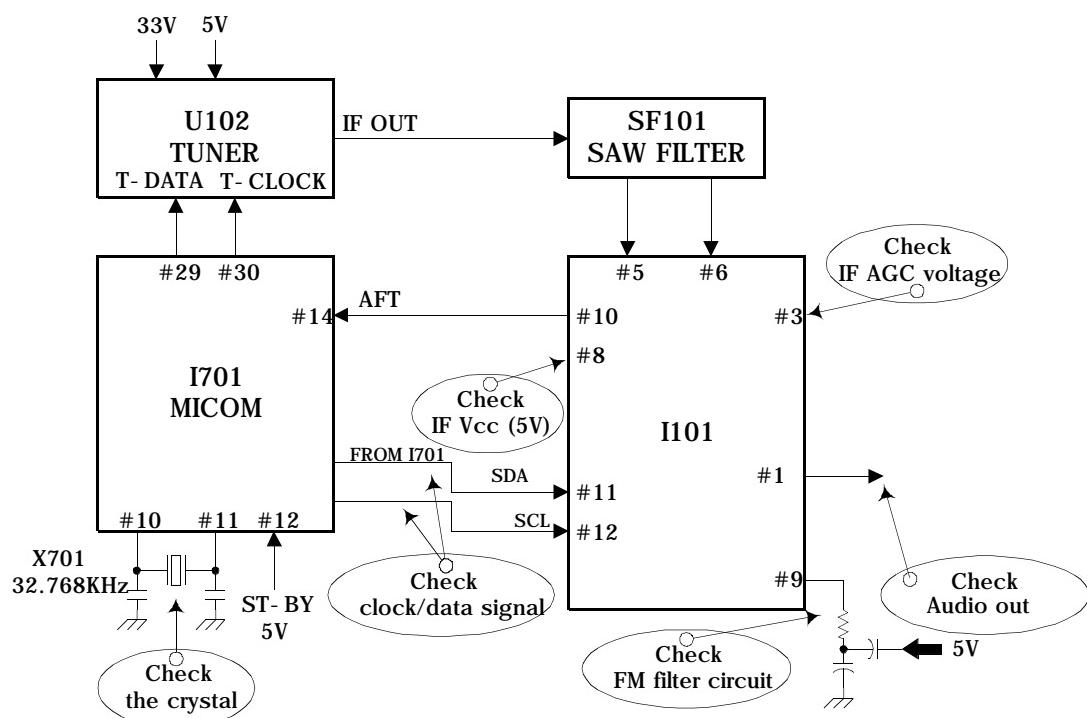
## 3. 2 NO SOUND(DTQ-26S3FCM)

Check audio output signal of I101 #1

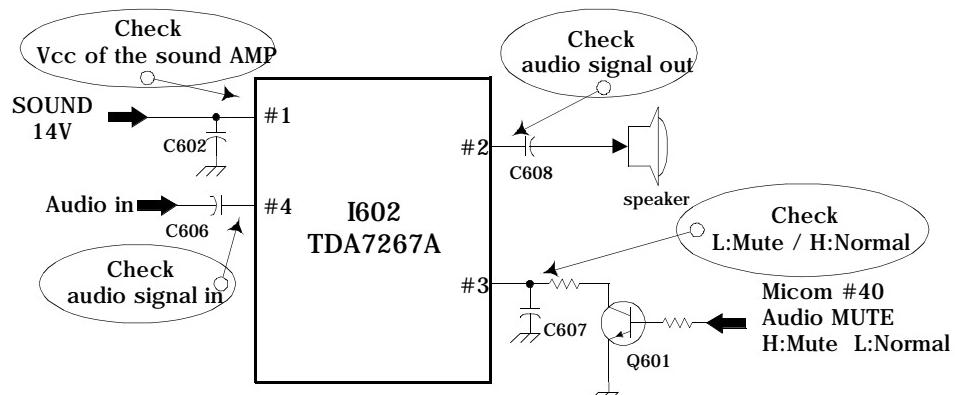
NG : Go to the figure ⑨

OK : Go to the figure ⑩

g

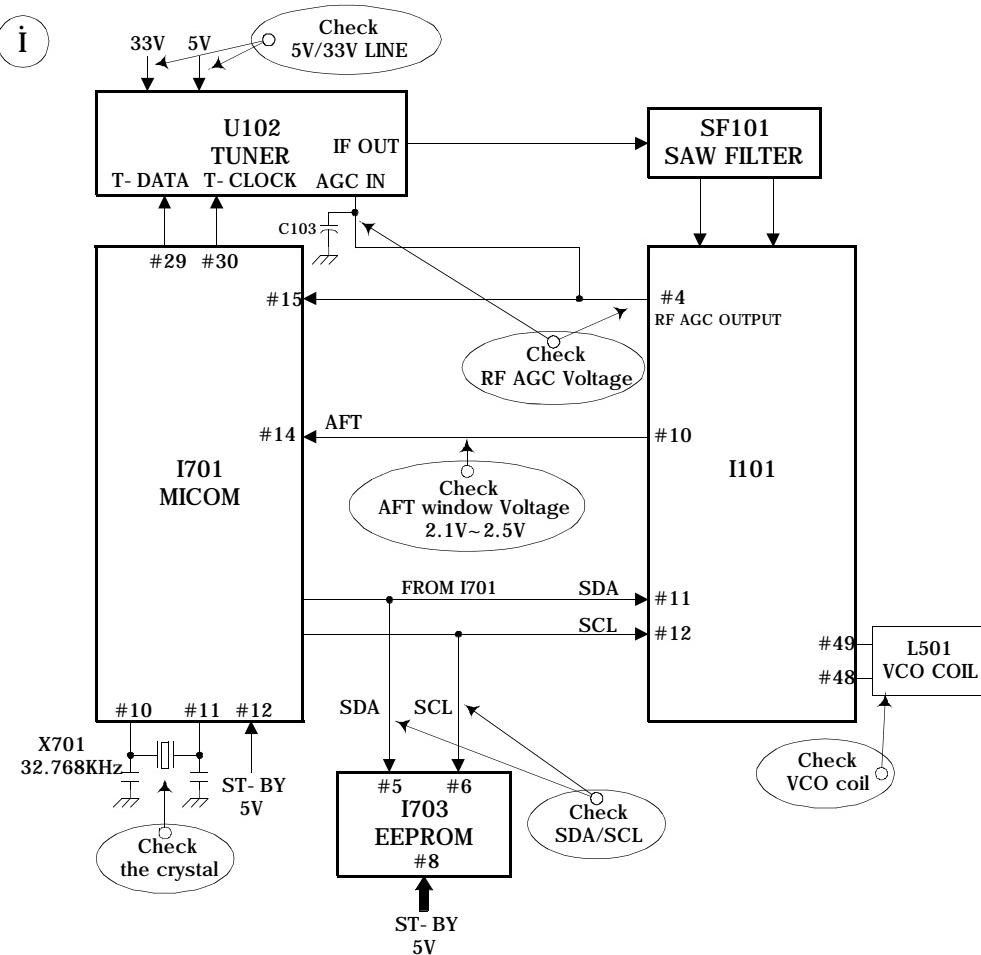


h

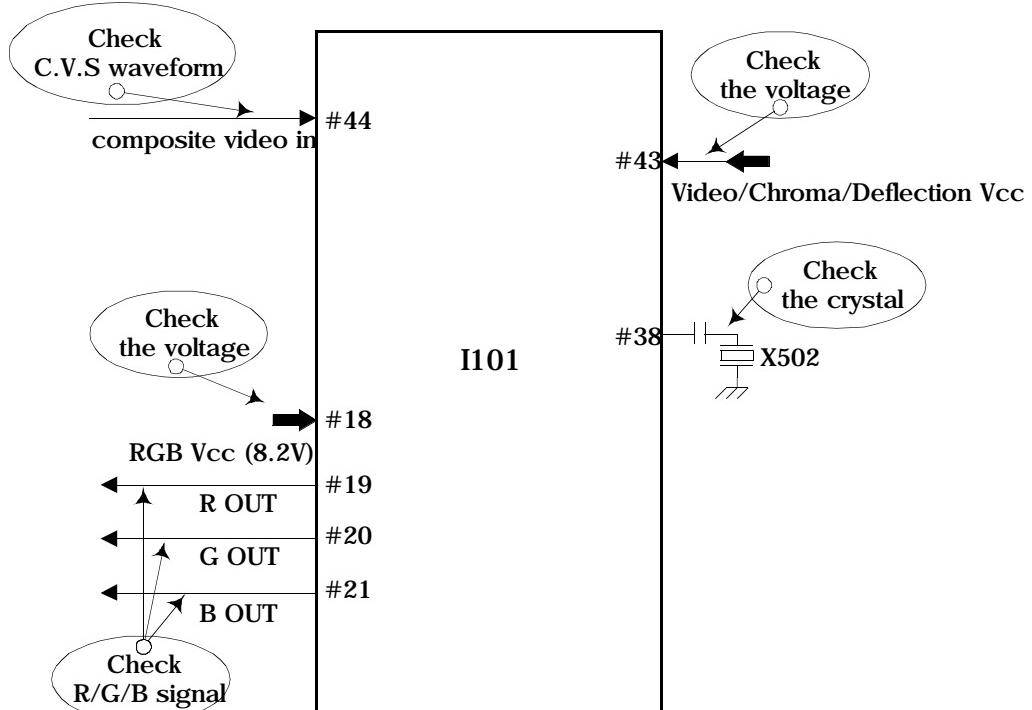


#### 4. CH DON'T STOP

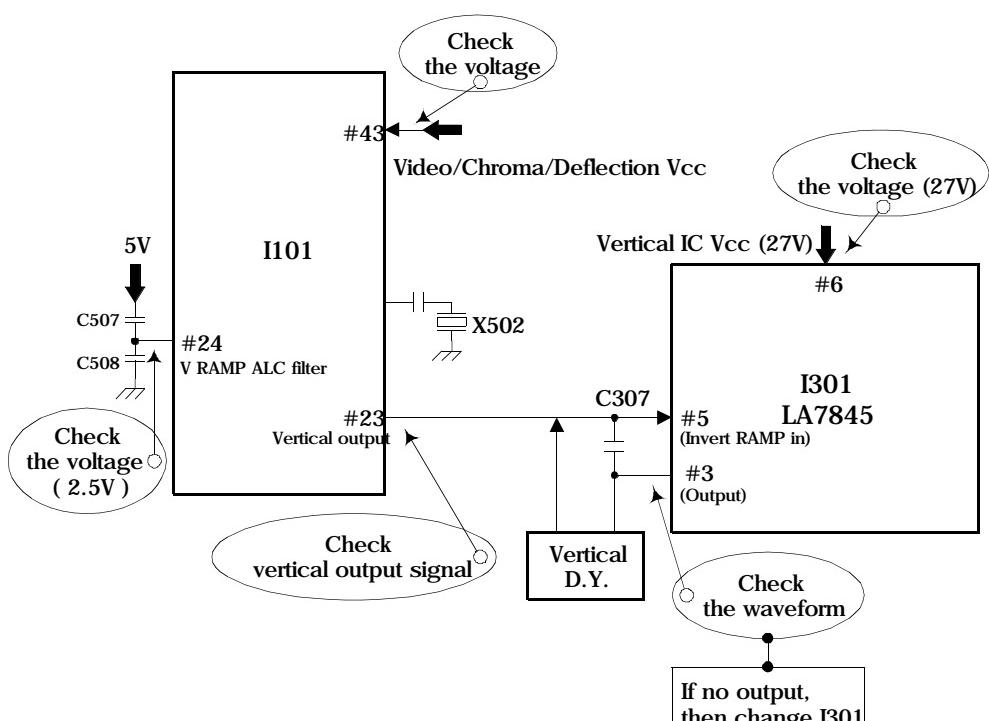
Check the input signal conditions	NG : Loss of signal or weak signal OK : Go to the figure ①
-----------------------------------	---



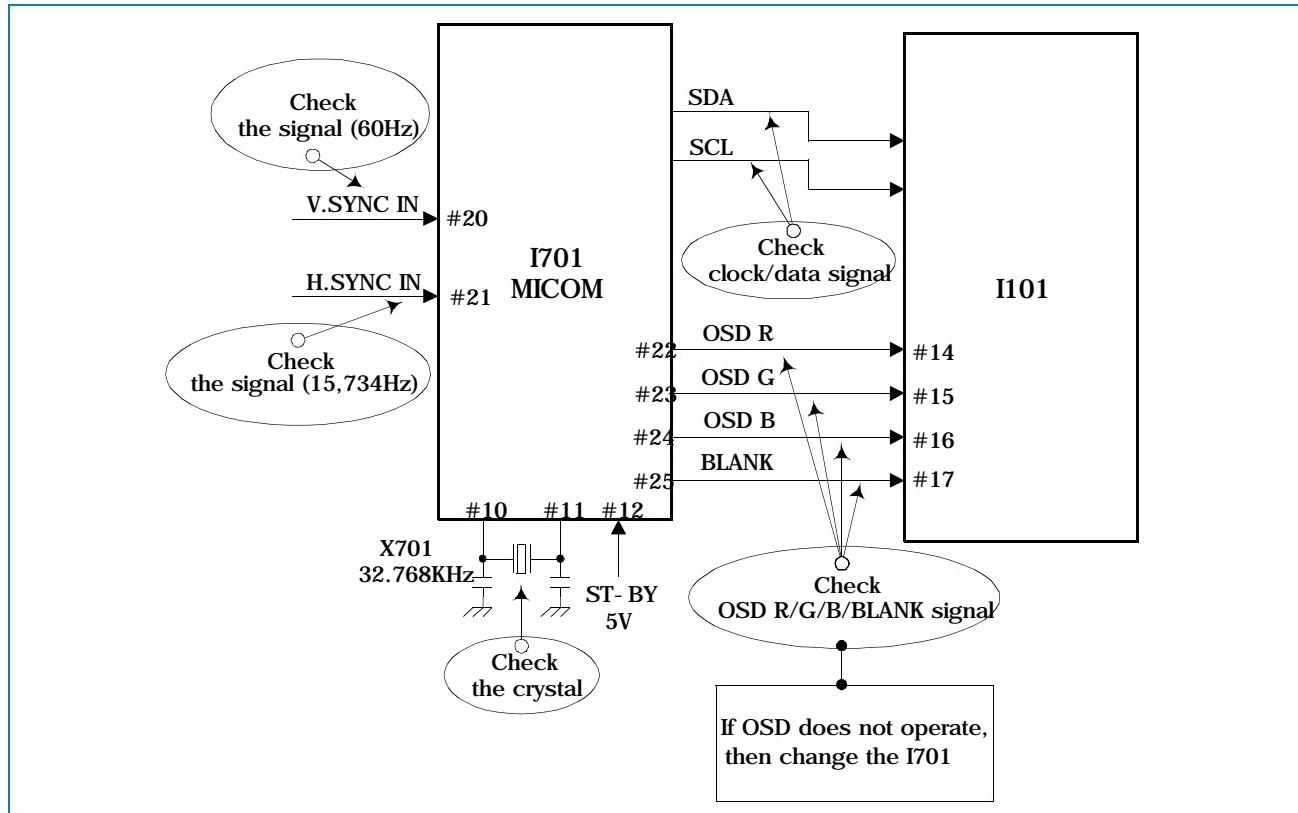
## 5. NO COLOR



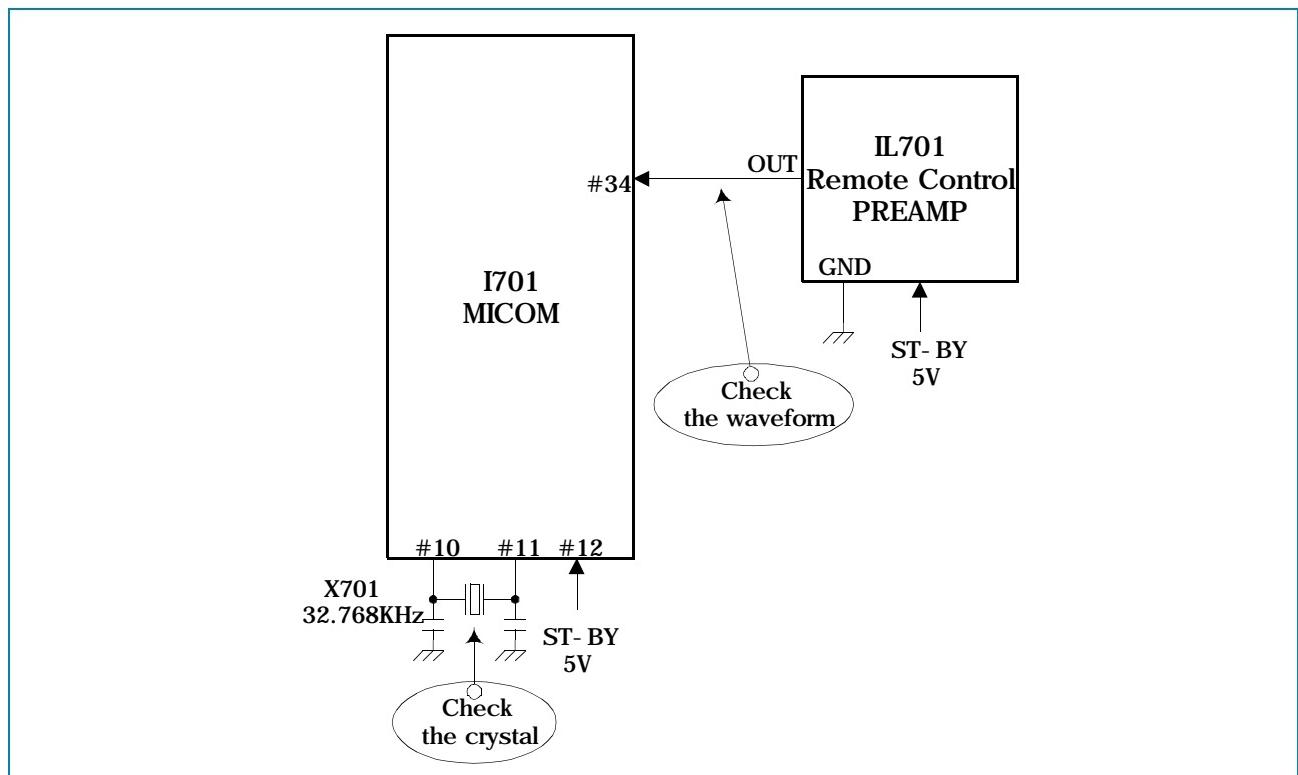
## 6. NO VERTICAL DEFLECTION



## 7. NO ON-SCREEN DISPLAY



## 8. REMOTE CONTROL DOES NOT OPERATE



**DAEWOO**  
DAEWOO ELECTRONICS CO., LTD

686, AHYEON-DONG MAPO-GU  
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